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ABSTRACT

THIS BOOK PRESENTS THE PROCEEDINGS (SPEECHES, DISCUSSIONS, AND RESULTS) OF THE NEW YORK STATE SYMPOSIUM ON EVALUATION IN EDUCATION. THE UNDERLYING PURPOSE OF THE MEETING WAS TO RESPOND TO THE STATE'S PROPOSAL THAT THE PRESENT APPROACH TO TEACHER CERTIFICATION AND EDUCATION BE ABANDONED AS INEFFECTIVE AND INAPPROPRIATE, TO ENGAGE IN A DELIBERATE AND DETAILED DISCUSSION OF WORKABLE ALTERNATIVES, AND TO DEVELOP A DESIGN FOR ACTION. THE UNDERLYING DIRECTION OF THE SYMPOSIUM WAS TOWARD EVALUATION AND CERTIFICATION OF TEACHERS ACCORDING TO SPECIFIED PERFORMANCE CRITERIA AND THE EVALUATION OF TEACHER EDUCATION PROGRAMS ACCORDING TO THE TEACHING ABILITY OF THEIR GRADUATES. THE CONTENT OF THE SYMPOSIUM, WHICH EVOLVED IN RESPONSE TO FOUR BASIC TENETS OF THE PERFORMANCE EVALUATION VIEWPOINT AND THE ISSUES RAISED BY EACH, TREATS FOUR MAIN QUESTIONS: (1) WHAT IS WRONG WITH THE EXISTING SYSTEM OF CERTIFICATION AND TEACHER EDUCATION? (2) WHY PROPOSE PERFORMANCE EVALUATION? (3) HOW WOULD PERFORMANCE EVALUATION WORK? AND (4) IF ADOPTED, WHAT STEPS CAN BE TAKEN TO IMPLEMENT THIS AS A TOTAL PROGRAM? AMONG MATERIALS INCLUDED IN THE PUBLICATION ARE A MODEL FOR PERFORMANCE EVALUATION CERTIFICATION, A COMPARATIVE ANALYSIS OF CLASSROOM OBSERVATION TECHNIQUES, AND AN EXTENSIVE BIBLIOGRAPHY ON "EVALUATION IN EDUCATION." (JES)

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the assessment revolution

new viewpoints for teacher evaluation

ROBERT C. BURKHART
Moderator - Editor

NATIONAL SYMPOSIUM ON EVALUATION IN EDUCATION

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preface

theodore e. andrews

Preface

"Sometimes a person's mind is stretched by a new idea and never does go back to its old shape."

OLIVER WENDELL HOLMES

If you have ever considered the following questions — should teacher certification be related to one's ability to teach; or can a teacher's classroom behavior be objectively analyzed; or even more futuristic, can such behavior be objectively *evaluated* — then *The Assessment Revolution* should provide a basis for your answers.

Credit must be given to Robert Burkhart and his staff for the preparation and design of this publication. He undertook the difficult task of skillfully blending papers submitted before the Symposium with the dialogue of the actual meeting so that what was clear to Symposium participants would also be clear to readers.

Each chapter not only fits into the logical sequence of the Symposium but also stands alone if readers wish to focus their attention on certain selections. The introductory chapter, "The Invisible Revolution," is a summary of the proceedings for those who might want to review the major issues without reading the entire volume. Also, *"The Bibliography for Evaluation in Education,"* prepared specifically for this report, should be of assistance to all persons interested in performance evaluation.

The Division of Teacher Education and Certification, co-sponsors of the Symposium on Evaluation-Education, is hopeful that *The Assessment Revolution* will give educators an opportunity for discussion, a direction in which to move, and a challenge to the future.

The discussion may be heated (it probably should be). One priority conclusion of the Symposium would recast the emphasis in almost all programs in New York State — teacher education programs should be evaluated on the teaching ability of their graduates.

The direction — evaluation of teacher performance — is more easily endorsed in theory than it is defensible through research and analysis. Nonetheless, the movement has begun. A Chinese proverb states that a man who wishes to remove a mountain begins by carrying away small stones. Readers of the report will conclude that enough stones have already been removed to make it possible to scale the "evaluation" mountain in the future.

At this Symposium, researchers, public school administrators, college professors, and State Education Department personnel made a challenge to the future. They were brought together to decide if enough is known about performance evaluation for the State of New York to encourage colleges and school systems to prepare teachers on the basis of objective analysis of teaching performance. The answers were clear — we need to know more, but we can't wait; we know enough to begin.

A revered college history teacher, I know, says that one who wishes to understand history need only understand the pivotal moments, the key events that unlock doors to whole new worlds. This Symposium may provide such a key to writers of education history.

But the historian's interest is not the major issue. If the greatest force in the world is an idea when its time has come, then the question about performance evaluation that readers of this publication must consider remains unanswered — Is NOW the time?

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The Invisible Revolution

"Expansion in vision is analogous to discovering some new word which holds our attention. When we first use such a word, we realize that others are using it too. It is not that our hearing has improved, but rather that we have found a means of improving our listening. An idea which changes our vision acts like a telescope or microscope and changes our idea of what is relevant in the world. With new viewpoints, we can see gaps in worlds which otherwise seemed completed. So we identify new problems which require the development of new solutions."

ROBERT C. BURKHART
Moderator-Editor
National Symposium
for Evaluation in
Education

An Invisible Revolution

An invisible revolution has been occurring for almost a decade now in American schools. The reason its efforts have not been more visible is that its principal leaders hardly look like revolutionaries. First of all, they are not vocal men intent on the creation of a new movement in education. Rather, they are a generation of observant and evaluative professionals, who are essentially realistic about what our schools are like and about what needs to be done if they are going to change. Their plan is to change the school system by changing teacher certification requirements. The plot, when first considered, appears to be a relatively simple one and seems to be essentially nonviolent. However, basic changes in the criteria by which you evaluate schools and the teachers in them relate to the determination of values by the schools. So, something much bigger than the simple certification of teachers is being dealt with when you state performance standards which are intended to designate what teachers will do if they are to be employed. One way cultural revolutions occur is when new criteria are adopted which shape peoples' behavior through determining the specifications for their employment. The conviction of those advocating performance evaluation as a new basis for certification is that a cultural revolution in the schools is needed, and if one doesn't occur we may be facing a real revolution in the streets. The schools, to their own astonishment, now are confronted with trying to save, through education, the poor, the physically and emotionally handicapped, and the culturally, socially and economically disenfranchised of the nation. Those in a position of responsibility know that we are doing less than a creditable job of facing these difficulties in our schools, because our teachers and schools are not geared for dealing with the realities of our national problems. However, these problems are the schools' problems, because they are the problems of with what and how the people of our nation are to be equipped as learners to face the realities of life in America. These problems then constitute the responsibility of the teachers, and so we depend directly upon their capacities to provide our nation's people with an adequate basis for learning throughout their lives. This is the challenge.

This challenge is made by the State to: Its own agencies and personnel; to the colleges, especially those of education; and to the school superintendents, because they assume the responsibility for training and certifying teachers on the job. In addition to these specific institutions, the discipline of research is challenged to develop the necessary assessment devices for evaluation for both performance and program. In turn, the public, in the form of the school board, will be challenged to understand the burden of increased taxation for the purposes required by a new, more individualized teacher training program, one which is more dependent upon local controls as they relate to local problems. The issues then are those of meeting the challenges of a change in role for the State, the college, the school board, the researcher, and the administrator. This symposium thus differs from others in that during it selected representatives of those institutions who now have these roles were directly challenged by Dr. Lierheimer, Director of the Division of Teacher Education and Certification, New York State Education Department to respond to the State's proposal to give up their present approach to teacher certification and education. Dr. Lierheimer has stated this position in his provocative paper, "Give Up the Ship," in which he begins by saying:

"Americans have always been stirred by the motto, 'Don't Give Up the Ship,' but in talking about certification contrary advice is indicated. Give up the ship because it is sinking! Those glorious words of Captain James Lawrence in the War of 1812 didn't save his ship, the *Chesapeake,* and they're not likely to save this vessel of inadequacies."

He further stated his challenge to the symposium by stating that: "It will take a bold move to crack the safe of certification in which the family rhinestones have been kept for many years. The strongbox of certification is guarded not only by the state, but by the profession itself. No weak assault will suffice. A bold design is called for."

Thus, the purpose of this meeting was explicitly to develop a design for action which then would be presented to the Regents of the State of New York, so that realistic proposals might in part be implemented immediately. The mutinous phrase which came to characterize the beginning of this symposium as an atmosphere was, "Give Up the Ship." An abstract of his paper is enclosed so that you may be fully aware of his position as the "provoker" of this scuttling.

NOTE: The position he has taken seems of such importance to the future of education in New York State, and perhaps the nation, that an abstract of his position paper was sent before the symposium to all the participants and observers, so that they were aware of his position.

GIVE UP THE SHIP!

Alvin P. Lierheimer examines present inadequacies of state certification methods and proposes a new approach to the licensing of teachers.

ABSTRACT*

Simple abandonment of certification or just turning it over to someone else will solve nothing. I am proposing a teaching personnel function at the State level which would maintain a data bank of information about all teaching personnel; the office would be concerned more with making teaching attractive than it would with building restrictive walls around the profession; the state office would help schools set up teams to evaluate the competence of potential teachers to fulfill new and differentiated functions; the state office would monitor local evaluation plans and maintain a research arm to determine improvements.

What's Wrong with Certification?

How inconsistent it is that professional associations of teachers seek more power to set standards, and at the same time pass resolutions urging the state to mandate additional courses for teachers. The State of Washington is perhaps the outstanding exception in moving toward performance evaluation. Resistance rather than resilience in certification does not jibe with the changes that are coming in the schools in the next decades.

Today certification means course prescription by the state, completion of which is offered to the public as a guarantee against *incompetence* in the classroom. Why is this decision about competence not made by someone closer to the teacher, who knows him?

The presently approved program approach, even though an improvement over checking transcripts, tends to hold colleges to a state-determined curriculum. In most places the college's approved program must follow exactly the courses prescribed for state certification. The colleges need more freedom to meet their responsibilities, and so do potential teachers.

Colleges frequently talk rebelliously about the choking effects of state requirements, but few of them ever propose and justify significant departures.

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* **Abstract prepared by Gene Brunelle**

The major problem with using curriculum as a basis for certification is that it doesn't tell you how a teacher works with children, or where the certified beginner is going to work, or what differentiated function he will fulfill.

We can now issue a permanent certificate to a teacher who has never taught. It would make more sense not only to hold off certification for the novice, but indeed provide a junior level entry position, leaving much of the more demanding training for career teaching to come later. Half of our beginning teachers drop out after two years.

The increase in mandated collegiate requirements also neglects the fact that academic subjects in college are not organized for instructional purposes in the elementary and secondary schools. But no one is suggesting that lower subject matter requirements will make for better teachers.

There is a need for emphasis on emotional content in curriculum; materials which make an impact on feelings, which generate insight into values, and which permit an analysis of human factors and relationships in events of life.

Why Our Present Procedures Are Wrong

The basic problem in certification is that it has been related to input, to teacher preparation. It has not been concerned with performance, output, or the ability to bring about learning.

Even if we were able to develop proficiency examinations to test teaching skills, our assessment would still reflect the assumption that a fixed amount of input will surely produce an effective teacher.

Further, a whole new hierarchy of differentiated teaching functions is developing, which will require changes in certification procedures; we do not have certificates for many positions now functional in the schools.

What We Ought To Be Doing

Perhaps the State's principal effort should be on attracting people *into* teaching rather than keeping them out, and with job satisfactions, more realistic preteaching experiences, and generating substitutes for the educational motivations which are missing in slum schools.

The college and the school, with help from the state, could transform the licensing function into something more meaningful and realistic.

The College's Role

Apart from providing general and specialized education, the college staff should have sound preparation, be productive, and have an appropriate teaching load. The library should be adequate, and the whole institution involved in planning teacher training. The approval agency for the state should see what behavioral objectives are proposed, how individual differences among teachers are accommodated, and how feedback from graduates is used in improving the program.

What teachers need, in addition to subject matter knowledge, is the capacity to intervene creatively in students' lives and provide them with ways of understanding and contending with reality. How the college bridges the theory-practice gap also remains a puzzler. What of the analogy with medicine's practitioner-professor who gathers evidence from daily patients, but devotes precious time to research for which this evidence is the prime input? Is there a need for his counterpart in education?

The School's Role

Ultimately the agency to decide on teacher performance for licensing purposes would be the school — teachers and administrators working cooperatively and perhaps granting the novice an interim certificate with a lightened load for a limited period during assessment.

Some teachers will thus be teacher-trainers rather than simply instructors of children.

The present teaching load leaves no time for teachers to reflect seriously about their own teaching, let alone someone else's teaching, or to seek systematic means for improving their performance on the basis of known research.

The State's Role

In addition to developing a licensing plan, the State would help local schools develop assessment devices and ways to use them; it would approve preparation programs; it would support experimentation in developing assessment tools which might make possible the prediction of teaching success from simulated trials. Trials would be based on what a teacher can do with students rather than on what courses he had taken.

The State would continue to be the processor and repository of records.

Where Do We Begin?

If licensing decisions are to be made by persons and agencies close to the teacher, five things might be done:

1) Qualified consultants from various institutions and states should draft for state approval a detailed plan for implementing the

proposed approach to certification, monitor the early operation of the plan, and make needed modifications.

2) A teacher education unit within the state agency should have approval powers over collegiate teacher-training programs, should be required to formulate criteria for judging programs.
3) Until tested performance standards are available, certification should be granted solely on the recommendation of an approved higher institution.
4) College recommendation as the only means to a certificate is an interim step. Pilot districts should be helped to develop, with state support, assessment instruments and procedures.
5) Over a five-year period the state should aim to develop a licensing arrangement that included an affirmation of the prospective teacher's general and specialized education from the higher institution, together with a preliminary estimate of teaching potential. The college graduate would receive a certificate as an assistant teacher. Final licensure would be based on verification of classroom performance by a school district using state approved (but not uniform) techniques. The school would recommend issuance of a license labeled, "Staff Teacher," etc. Subsequent levels of competence based on combinations of training and performance could well be identified by professional groups, and the administration of such levels might be worked into the State's record-keeping function so that specialties could be known to inquiring employers.

The purpose of my remarks is not so much to prescribe a new treatment as it is to provoke deliberate and detailed discussion of workable alternatives to a hopelessly outmoded system that stands astride the schools, making necessary change and improvement more difficult.

* * *

This challenge was not met enthusiastically, rather it was discussed thoughtfully, by those responsible for the evaluation of the participants' proposals. A challenging setting existed for dialogue relating to these issues. The mood of the symposium's evaluators toward the participants, one of whom was Dr. Lierheimer, is stated by Dr. Houston T. Robison, Vice President for Academic Affairs for the State University at Buffalo.

"The entire area of the evaluation of our system of teacher education is of more than passing concern to a person who has the responsibility for the academic program of 6,000 undergraduate students, 95 percent of whom are already committed to careers in teacher education. We have spent several generations in putting together an organized program which in our judgment would result in the production of interesting, exciting and competent public school teachers. If we are to be convinced that what we are doing is woefully inadequate, those people who make this charge will be expected to sustain it with something more than the mythology of 'witch doctors' passing under the guise of educational research."

During the symposium the basic tenants of the performance evaluation viewpoint toward education were stated. Each of the participants referred to them at some time, and since they are basic ideas, no participant spoke of them as his origination. However, some of their formulations of these ideas have a consciousness and vividness that warrants quoting them directly. Their four main concepts appear to be interrelated structural elements essential in performance evaluation.

One: The Object of Teaching Is To Bring About Learning ✓

"If this is true, then when we train teachers, the teachers should demonstrate learning, and, when they teach pupils, the pupils should demonstrate learning. But I don't think all that's learned is taught. In as much as we teach, we have purpose, and I think that without purpose you don't have teaching. The object, then, is for the teachers to define the evidence that they will accept as proof that this learning has taken place, and then to arrange matters so that the individual learner does demonstrate this evidence."

Herbert Hite

Two: Teacher Effectiveness Is Determined by the Extent to Which Pupil Learning Objectives Are Achieved in the Classroom.

"Teacher objectives are usually expressed in terms of what kids are going to do in the classroom, not how much they are going to get on a test. She wants them to do certain things during the lesson, and if they do these she's achieved her objectives. If a teacher can go into a classroom and program her own behavior, and pull out of her list of teacher behaviors certain ones to do and exhibit them on command, then that teacher is probably an effective one."

Donald Medley

Three: The Wider the Range of Effective Teacher Behaviors, the Larger Their Potential for Competency

"The range of teacher behavior can be estimated by the checklists and grids employed for observing instruction. These range systems can also be used to locate gaps in instructional effectiveness. Teachers then can be helped to set up learning objectives in gap areas so as to make their instructional behavior more inclusive in response to the needs of their pupils as learners. This increases their competency."

ROBERT C. BURKHART

Four: There Is No Performance Model for a "Good" Teacher — We Can Construct and Need Many Models

HEMPHILL: I think the problem is not that we don't know what a "good" teacher is, but that we know too many things about what a "good" teacher is. From these we could construct a "good" teacher in any way that we want to. All of us have said, "This is the way a good teacher is to me." I don't think that there's anything you'd do about that except jump off from that standpoint.

MEDLEY: Should Al certify the kind of teachers that I like?

HEMPHILL: He should certify the kind that I like, and I should be held accountable in their teaching for why I like them. And so should you for the kind you like.

Each one of these four ideas is an essential element in performance evaluation, and, if any one is omitted, it results in making a flexible program into a rigid and confining structure. Those institutions involved in the training of teachers are thought of as responsible for providing a wide range of effective behavior in the promotion of pupil learning. Their product should then be a highly competent teacher-learner. Given this range as competency, various models for a "good" teacher can then be determined as they are applicable to the particular needs of the learner in accordance with the development of the school's educational objectives by its staff. Institutions, which in collaboration meet these conditions, would be certified by the State.

The content of the symposium, which evolved out of these central ideas concerning performance evaluation, answers four main questions:

one, *What's* wrong? two, *Why* propose performance evaluation? three, *How* would performance evaluation work? four, *If* adopted, *then* what steps do we take to implement this as a total program?

The first question, "What is wrong?" was answered in two parts. Part one: "What is wrong with the existing system for certification?" Answer: "It is *not* effective as a system." It is not effective because; one, it does not evaluate the teacher's performance in the classroom, two, the person who is evaluating does so on the basis of teacher grades in education courses rather than pupil learning. Lierheimer's criticisms of the present system here were widely accepted. The second part of the question, "What is wrong?" was concerned with "What is wrong with teacher-education?" This was largely answered during the first meeting of the symposium by Medley's presentation relating to first and second issues raised during his session.

SESSION ONE: *"What is wrong with teacher-education?"*

FIRST ISSUE: WHAT IS THE STATE OF PRACTICE IN TEACHER EDUCATION? IS IT ADEQUATE?

Burkhart: In my mind, Dr. Medley had been always associated with someone who sat outside the ring in order to look in to tell us what was happening. But, occasionally he gets into the ring, and on one of those unfortunate occasions he said the following thing: "I'm afraid that the content of teacher education as it relates to the practice of teaching, resembles that of a young 'witch doctor' as he learns from an old one, much more than it resembles that of an engineering student as he learns from his engineering professors. Insofar as the folklore of teaching has value, it makes today's teachers slaves of the past by providing no basis for sound innovation in improving the art." Now Don, as you heard me say it to you, do you want to take it back?

Medley: I think that's the model that many people have: that teacher education is learning what teachers do. That's how it works. What we need as a basis for teacher education, evaluation and certification, is to begin to develop a science of teaching, to begin to study it as it is, and also to study it as it ought to be or the way it might be. The taking of the first step, to begin to study teachers in the classroom *as they are,* has been a revolutionary development in education which has occurred quite recently, largely in the last decade.

The first step wasn't really taken until we took some backward steps, to see what had been done in the area of the study of teacher behavior. When was it, about 1960? So that question is a little bit old. The question came quite innocently out of our shock, when we went to the literature to see what the state was. *We could find out of 1,000 studies only 20 studies in which the criterion for teacher effectiveness was how much pupils learn from them. The other 980 rated teachers in accordance with the impressions or judgments made by a supervisor or more frequently a principal.

These then were based on essentially authority estimates. This is what killed 50-60 years of research in this area, a bad criterion. We know more about what kind of teachers can get good ratings from a principal than we need, and less than we need to know about what kind of teacher will have a good effect on pupils. Recent study shows that, when you take the teachers and ranked them according to principal's judgments and then re-ranked according to pupil learning, the two ranked orders would have nothing in common.

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*NOTE: Bibliography for analysis of studies through 1967.

Did you ever think what a principal has to do to decide how effective a teacher is? He has to walk into the classroom, look at the pupils, estimate each individual pupil's ability, estimate what part of that progress to attribute to the teacher, and then combine these for all the pupils in the class, come up with a mean, and say, "This is how effective the teacher is." When we try to do this with measures of pupil gains, it is quite a complicated statistical problem. When we ask a principal, who has many other responsibilities, to drop in and watch this teacher a while, and tell how good the teacher is, it is a ridiculous assignment.

Burkhart: Do you think this is one of the reasons why the supervisory process wasn't effective in the very comprehensive study that you did of student teachers?

Medley: No, I think the reason it wasn't effective was because there was no effective communication between the supervisor and his student teacher regarding specific observations of teacher behavior. This showed up in our review. The second element in such a study is a careful analysis of the teacher's behavior, and the requirement that we set was that it be an objective analysis. That is, that it not be a retrospective account of what the observer thought the teacher did, but an actual account of what he saw. We located approximately 20 studies which met this criterion, but there was no overlap between the two. Using the criteria, we set in looking at this literature, there was *no* research in the field. This is kind of shocking, to us it was shocking, a result that made me make the statement about the witch doctors.

SECOND ISSUE: WHAT POSITIVE RECOMMENDATION DO YOU HAVE TO IMPROVE TEACHER EDUCATION?

Robison: Dr. Medley, would you comment further as to just what findings or specific research-based suggestions you are prepared to support in this area of the language of teacher behavior?

Medley: For many years research in teacher effectiveness was unproductive, largely because researchers kept falling into an old but still dangerous booby trap. Unwary investigators even now are trapped in it. I refer to the assumption that it is possible to order the teaching behavior of a sample of teachers on a single dimension of effectiveness, so that each teacher behaves more effectively than the one just below him and less effectively than the one just above him. The one fact that stands out in the body of research results up to now is that there is no such thing as a single dimension of effective teacher behavior: different teachers can be equally effective and yet behave quite differently.

We have found it useful to visualize a space of many dimensions, each dimension of which is a dimension of teacher behavior. The changes in teacher classroom behavior, which appeared in the experiment we conducted relating to student teaching and supervision, could be interpreted as representing a general rise on all eight dimensions, as an "improvement," *except* that there are significant shifts in pattern.

Most striking was in the change in the nature of the pupil role: after student teaching the typical class shows much more *Task-Oriented* activity (+ 8.2 T-score points), but just about no increase at all in *Pupil Initiative.* The pattern of teaching style also shifts; teachers become relatively more "informative" and less "imaginative" as a result of this experience. They increase in the number of concepts they are able to introduce into a lesson more than in the *originality* and aptness of the way in which they deal with their concepts. These teachers seem to be getting more competent in a rather dull way, but not any more exciting or stimulating. As to the rather small differences we found among the various supervisory methods, the direction of that difference indicated, unfortunately, that those teachers who were *not* visited by their supervisors were the ones who "improved" more, if indeed the difference was not a chance one. Two conclusions may be drawn from these results: 1) The supervisory process as implemented in this study has no effect on teacher behavior, 2) Closed circuit television feedback as used in this study does not make supervision any more effective. We are somehow failing to make effective use of two very powerful agents: television and the experienced supervisor. The problem is to make feedback information available to the student in usable form.

To me the most important substantive finding is a strong suggestion that the seminal problem in improving teaching may be perceptual in nature: that the key to helping teachers change their behavior may lie in helping them see behavior — see what they themselves — and others as well, are doing. St. Paul said, "Ye shall be compared to a man beholding his own countenance in a glass, for he beheld himself and went his way, and presently forgot what manner of man he was." This is what happened to these student teachers. They saw themselves on television teaching.

They saw all the mistakes they made, and God knows there are lots of them. They saw what little they did right. Then they turned the projector off and they went back to the classroom, and whatever they did had nothing to do with what they saw of themselves, as they did not know how to perceive themselves. A language of teacher behavior provides a vocabulary for self-perception for the teacher.

A language of teacher behavior is needed: 1) which would enable observers to analyze the behavior of teachers, including their own, by means of feedback, 2) which would enable them to control their own behavior according to their pupil learning objects, 3) which would enable them to envision or create new forms of teaching behavior essential for the pupil.

SESSION TWO: *"Why propose performance evaluation?"*

The next question, "Why," was concerned primarily with the kinds of values performance education might foster. The debate here centered around two issues. One, the extent to which the school is responsible as an agent for shaping the society in which we live. Two, the extent to which the responsibility for evaluative judgments ought to be based on self-assessments rather those of some authority. This issue took up most of the second session and was prompted by Kaplan's system for introducing affective experience relating to "value" questions in the classroom. Here the shift from a *judgmental* authority determined structure to a self-determining *"evaluative"* one is discussed in relation to the realistic problem of the *abandonment* or *assumption* of professional management responsibilities on the part of administrators. A system for dealing with this problem is spelled out during this and subsequent sessions, particularly Lierheimer's concluding one relating to "Answering the Challenge of Certification." The resolution of this issue turns out to be central to the development of a design for action on the problems of certification.

FIRST ISSUE: TO WHAT EXTENT IS THE SCHOOL SYSTEM RESPONSIBLE FOR THE VALUES OF OUR SOCIETY?

Hite: I'm not really urging that I be responsible for my students' particular decisions, but I think that my students should be responsible for the values that they form. That is, when they decide that it is the time for their pupils to state a preference for a value, they should decide this with reference to some kind of appropriateness. And both the teacher and the student are responsible for this "Statement of a Preference."

*Turner:** This doesn't solve the problem for you as an individual, if you think of the school as a social instrumentality, which represents middle-class values, and also in the sense that our classrooms are teacher-oriented. Personal goals which aren't associated with the school are deferred. You know then that your personal problems are not included. As an individual, you have been left out. Now, in that context, when I think of the sort of contemporary needs of kids right now, schools are no longer valid. The experience has to be more for now, it also has to have meaning now, it also has to have relevance in terms of now. I suspect that the tremendous hostility that's being expressed on a worldwide basis is the rejecting of the schools as an instrumentality of enculturation. So, therefore, school has to be a meaningful experience now, not in the future — right now! Therefore, you see, the curriculum has to become what happens now, not a structure that we impose.

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*NOTE: Turner is an Honored Observer from Toronto, who has entered the discussion in the final portion of Medley's session which was open to participation from the floor.

Jennings: This is the way to disaster. This is the damnable *mea culpa*. "I am sorry for the mess which we have made of this world. Excuse me for the middle-class syndromes and everything that it buys." I sat at this meeting exactly twenty-five years ago, and you people are saying exactly the same things.

Turner: Then I say, let's look at these middle-class values. Are these the ones which we really want for the accommodation of individuality? I don't think in the present context that middle-class values are worthy. I think, you see, if you talk in terms of a metaphor about the ship, it's going to sink.

Jennings: Maybe you'd better pronounce some of those middle-class values, and let's examine them a minute. Because, otherwise, I'm afraid we're going to wind up saying some things that have no relation to values whatsoever. The child is of ultimate concern? I think it's a referent problem here. It's society that's of ultimate concern, damn it! — A shaping society is being able to articulate what kind of good life is available or tolerable or something — you don't know what you're going to do to or with the child without a shape. You've got to have a program. Then you can say to the teacher who is working on these kids, "What are you teaching?" So often we use mealymouth expressions about meeting the child where he is, and all the rest. We don't say that we as teachers are confronting plastic humanity here and are making it different for good or ill. We are doing this, and what I hear you saying is, "How are you going to make teachers who at least do no harm?" How are you going to do that? (Teaching, the only profession without a malpractice clause. Why?) How are you going to make teachers who first do no harm and then have a sense of direction? How are you going to make teachers who are open to not only self-examination but also examination by peers? Who can take not only criticism but also the absolute indictment of failure? Now teachers don't fail, they just do things differently. They're excused. Supervisors don't fail either. They just happen to look the other way, or don't show up at all. And then we all engage in the *mea culpa*. We have done wrong. Carpenters and plumbers do better.

SECOND ISSUE: WHO IS RESPONSIBLE FOR DECIDING WHETHER THE OBJECTIVES THAT THE TEACHERS ARE SETTING FOR THEMSELVES ARE IMPORTANT?

Lierheimer: I see that the purpose is, as you said, to let teachers see their own behavior in some sort of an organized fashion. But there are several questions that bothered me. For instance, who answers this question, "Why are the teachers behaving the way they are?" and, "Who determines what the teacher's job is and whether or not the objectives which they are setting up for themselves are the most important in the series of things that they do in the classroom?" To let them see their own behavior is one thing, and to give them a tool for looking at it more discriminatingly than they do is great. Observation for the sake of evaluating their own behavior in terms of their objectives is fine, but what about those objectives? Somebody has to make this judgment on the person, assess them in these terms, and I keep being reminded of that. You know, I can see this instrument as an instructional tool, which is more helpful than the kind of comment that you typically get, but I'm looking at it critically from the other viewpoint. That is, in terms of assessing some of the objectives that . . . .

Kaplan: I'm not interested in assessing them at all. I have a personal equation about college supervision. That is, the less a supervisor talks, the better he is. I'm working toward muteness. I don't feel adequate, really, in the role of the college supervisor who walks in to assess whether what you're doing is good, bad or indifferent. I believe that the teacher in the classroom should realize that we're finally giving them the responsibility of everyday on-the-job evaluation. I'm delighted to give them this responsibility.

Lierheimer: But I'm more worried about how you're going to get teachers in the classroom to begin with. Did they just come in off the street? Who decided that they were employable or unemployable? How did they get there in the first place? Sure, once they're there you can give them all this stuff. But how did you decide that they were the ones who really ought to be in the classroom?

Lang: You also have to decide whether or not they should stay in the classroom, Len. But then you have essentially an evaluative instrument whether you use it that way or not. Apparently from the comments of those who've used the instrument, they believe that they are being evaluated. They think that it can serve to evaluate, and it is being used by supervisors for evaluation.

Kaplan: It could be, and I made that statement initially.

Burkhart: I think, Lenny, the thing that you're concerned about is its supervisory role, and I'm delighted that he brought this role up, because there is no training for the role, for this most responsible position in the school. I mean, if there is one major gap area in the education system, this is it. We don't know how to train teachers, but traditionally people have been making all kinds of subjective judgments in that role, one judgment after another. The difference that is important is between "judgments" and "evaluation." Judgmental persons really haven't been stopping to look. They haven't been stopping to analyze, to perceive openly and to think about alternative viewpoints. They haven't been interacting with each other with a positive purpose, other than to help their students meet some one else's image. We don't want that kind of judgmental behavior now; that is making the system inoperative. We do want evaluative kinds of behavior. That is, to be able to analyze your behavior, to talk about it and direct it with some sense of purpose. I think Don started it with his emphasis on observation. Well, we've got to have people look at their behavior, so they are no longer making this kind of "good-bad" judgment about themselves. Where they are first saying, because of observations, "Oh yes. That's so." or, "I didn't do this enough," or, "I wanted to do this, and I'm going to have to change in that way." It's a difference in attitude that's essential.

Medley: Let me just kind of jump ahead and illustrate how I see this kind of instrument used in certification in terms of what Al's talking about. Let's say that certification is a two-step process, that when a teacher finishes his preservice practice, he's given a learner's permit and can go into the school system. Let's say that when the teacher is awarded tenure in a public school system in the state, he's become certified, so you have two steps. Now, you have to use the instrument differently. When a superintendent or supervisor decides whether he's going to award a teacher tenure or not, then he has to evaluate the teacher's behavior against the objectives of the school. He might take this thing and say, "Well, I want teachers who exhibit these behaviors." He might get the descriptions of the teacher's behavior and select, or rather keep the teacher or fire her, depending on whether or not she conforms to the model.

At the end of training, we don't know what school system a teacher is going to work in. There may well be different objectives in different systems; different skills are appropriate. At that point we might say, "Well, we'll take this instrument, and we'll say to the teacher, I want you to . . . " And if a teacher can go into a classroom and program her own behavior, and pull out of this list of different things, certain ones to do and exhibit them on command, then the teacher is probably prepared. She's like a surgeon who knows how to use a scalpel and how to sew, or whatever they need to know. But whether she cuts the right organ out and so forth is another kind of decision. Maybe we can make sense out of this this way, in terms of looking upon the function of teacher education as giving a teacher a lot of skills, and the teacher's effectiveness has to be measured on the job someplace.

Jennings: If we can only get to the point where we can get someone to go into a classroom and behave like, if you will excuse the expression, a good dramatic critic, one who says, "I went and I looked and this play was about . . . . This play was good or bad in terms of the dramatist's work, in terms of the set designer's work." You go down the line, and then finally the actor's. "The actors, in terms of their own intent, were able to do A, B, C, and D." And finally, "Go," or "Don't go." This is, I think, effective and useful evaluative processing, because there is a point at which every dramatic critic, or even every good reviewer, finally must take the plunge and say, "You know in my judgment this stinks, or, "It's marvelous." That's what you've got to have. And damn it, we don't do it. All we do is set up a situation in which the eraser can be passed from room to room, so that we can pull out of the desk that piece of programming so that the character who comes in the door who is essentially our enemy anyway, is going to be able to go out and say, "I didn't see any waves." And you're very happy to go through the process, because someone in the echelon above you told you, "Next Wednesday you're in that school. Come back and fill out your sheet." You want to talk programming?

Burkhart: Yes. I want to talk programming for a minute and state some assumptions. The assumption behind the taxonomy and this whole viewpoint is, "What we owe kids is a whole life." It's just that simple, and if we don't provide some of these cells . . . . I don't care whether Lenny doesn't want to provide these last cells, but I do. I think that if we do we're going to have kids who are going to build a better society and not destroy us. And they have every right to if we don't give them any equipment for knowing that they're doing it. This taxonomy interests me very much because everyone of the lower categories before you get to valuing doesn't have a thing to do with thinking. They have a lot to do with responding, with being an interesting animal. Maybe we want more interesting animals in our classrooms, but, boy, I want them to be trained.

This is part of the certification problem. It's the school system, the college and the state saying, "We do have values. By God, we have values and opinions and things that we want, and we're going to state what they are." What we have here is a means for recognizing and identifying values and for making commitment and getting into dialogue about this as institutions and people.

Kaplan: Dialogue is the "pulse beat" of the Affective Taxonomy. I've been sitting here charting you people, and I've filled up an awful lot of the right side of the instrument. The value side.

Lierheimer: For a nondirective counselor, this thing is really rigged.

Kaplan: I congratulate you.

Burkhart: That's what I'd like to conclude with. I never heard the word value mentioned so often, and Kaplan has demonstrated his system with us by pushing into analyzing our own system.

Hite: And then he evaluated us.

Burkhart: That's right.

This revolution in value awareness is the reason beneath the changes sought for by the assessment revolution.

SESSION THREE: *"How Do Processes of Inquiry Relate to the Determination of Performance Adequacy?"*

The question of, "How would Performance Evaluation work?" is answered then in relation to the problems of teacher-learning as exemplified by the working prototypes developed by Burkhart and Hite during the third and fourth sessions. These approaches emphasize individualized training of teachers, employing micro-teaching and systematic feedback according to grids or checklists. Both employ self-assessment, *along* with peer and supervisory evaluations. Each system, as well as those of other participants, encourages the development of professional skills relating to a wide range of cognitive, affective and sensory-motor learning tasks.

Burkhart's session is concerned with ways of increasing the *adequacy* of process inquiry learning in the schools. He has developed for this purpose multidimensional systems or grids for the assessment of teacher and pupil behavior within and across content areas. His criterion for the *adequacy* of instruction is the inclusiveness or range of process inquiry learning experiences evident in the classroom.

ISSUE: HOW DO YOU DETERMINE WHETHER THE INSTRUCTION BEING OFFERED IS ADEQUATE?

Medley: If I understand it correctly, we don't license or certify physicians or lawyers in this way. We don't count the number of patients a doctor has who get well, and if he doesn't get a certain percentage of recovery, we don't give him a license. We try to find out whether he knows how to treat patients. We assume that each patient is an individual problem, and the doctor that's going to be the best is the one who has the widest repertoire of skills.

If you really think of a teacher as a professional problem solver, then you will want to select your teacher on the basis of the one who has the biggest kit of tools for problem solving and put your money on him.

Burkhart: I'm wondering what it is specifically that you're telling me that I ought to do and that our staff ought to do.

Medley: I would let you take your choice. We have an instrument now that detects sixty-eight different things that teachers could do. Most teachers don't use more than ten or twelve most of the time. A teacher's behavior is constricted. Apparently he just doesn't try all of the different things at his disposal. I have confidence in a teacher's ability to select a good way of behaving in an individual instance, if he had a behavioral repertoire at his command, but he doesn't. He doesn't know how to do these things. For instance, in your study with the inquiry model, it's clear teachers don't know how to exercise all these muscles.

Burkhart: We have very narrow models by which teachers learn in our classrooms, both in the colleges and in the public high schools. The exercises they see in their teachers are "pushups" and nothing else. You could get tired of looking at pushups, and of doing only these also.

Hite: One of the things mentioned was the sort of continuing change or lack of change in the teacher, in their progress as a professional. It seems to me that maybe the environment creates this. Does it not? What about the effects of this very powerful single model that's usually the only thing offered to the student teacher? And then there isn't much change in the teachers where they practice. How else could they have a very large repertoire of ways in interacting? They've only seen variations of one model.

Burkhart: Yes, if we leave out the information from one field of vision, our understanding is likely to be questionable from that point of view. The unifying factor which will allow us to establish a *broadly* based viewpoint is the *range* of inquiry processes we employ to screen the information coming to us. The key to our processing of this information is the form of the question we ask, or attempt to answer. The questions we ask constitute the kind of lens which provides us with relevant information about our experiences. We feel that there are four question forms: Procedural, Conceptual, Suppositional, and Evaluative. Each is a lens which transmits and provides a different way of inquiring about or organizing information. To be educated for full mental functioning, man needs to be able to question and answer the world in these four ways. When we look at learning in this way, some serious gaps become evident in the kinds of mental functions which school systems make it possible for pupils to perform and teachers to learn. Some things are harder to see than others, and among the things which are difficult to see are mental functions. We have attempted to build a set of abstractions, which like lenses will provide the means to identify a variety of mental functions in terms of behavior. The lenses we are creating cut some things out of our vision and bring others into focus. Through each lens we can see a specific way in which a person is behaving. However, where a gap in a person's mental processes exists, we may find that there is no behavior to be seen. These lenses allow us to see at least four major inquiry processes or ways in which people need to be able to think or function. These processes occur in at least three different fields of vision: Sensory, Affective, and Cognitive.

The Sensory field of vision deals with information which is made available through the sense organs. Sensory phenomena seem tangible, while Affective phenomena are quite the opposite. Feelings are never really visible to the naked eye; rather, they occur within the interior of man and are expressed through his attitudes. The Cognitive dimension of reality is even more remote and harder to see because it deals with our knowledge of the principles which govern our experiences, and not simply with the experience itself. Here, in fact, we are thinking of things abstractly. The Cognitive field of vision is totally intellectual in substance. It is the product of man's ideas rather than of his sense organs or his affective self. The Sensory, the Affective and the Cognitive domains constitute three radically different modes of consciousness. They all have one thing in common, however. They are produced by referents which are available to us if we are looking for them.

The unifying factor which will allow us to establish a broadly based viewpoint is the *range of inquiry processes* we employ to screen the information coming to us from these three sources.

	WHAT CONCEPTUAL	HOW PROCEDURAL	IF/THEN SUPPOSITIONAL	WHY EVALUATIVE
SENSORY	Perceiving	Manipulating	Relating	Discriminating
AFFECTIVE	Preferring	Responding	Empathizing	Valuing
COGNITIVE	Comprehending	Applying	Transforming	Synthesizing
BEHAVIOR	**FLUENCY**	**FLEXIBILITY**	**ORIGINALITY**	**RATIONALITY**

The first inquiry process is the most traditional — the conceptual. Its sensory component is perceiving, the affective component is empathizing, and its cognitive component comprehending. Taken together they result in conceptual enrichment, providing a basis for *fluency.*

The second inquiry process is procedural; the sensory component is manipulating, the affective is responding, the cognitive applying. Taken together they lead to *flexibility.*

The third inquiry process is suppositional; the sensory component is relating, the affective preferring, and the cognitive transforming. Together they provide a basis for *originality*.

The fourth inquiry process is that of the learner's evaluative capacities. The sensory capacity is discriminating; the affective capacity is evaluating; the cognitive capacity is synthesizing. When combined, discriminating, valuing and synthesizing provide a basis for *rationality*.

Fundamental to all of these objectives is the development for both the pupil and the teacher of an operational understanding of the Inquiry Process. Usually only half of this process is experienced by the child because the teacher and the parent generally ask questions, and the pupil or the child generally does the answering. Children and pupils learn to be answerers first in the home and then at school, continuing through college. The primary problem in training teachers in college is to change them from answerers to questioners, but not the kind of questioners who aim merely to get answers from their pupils. We need to learn to establish educational situations which will make the entire process of inquiry a part of the pupil's habits of response rather than half of it, particularly the answer half. This form of teacher-training is one that can be seen in the special educational areas, such as that of working with children with speech problems in which the teacher is trained as a research practitioner. The teacher's role is both to help the pupil and to develop methods helpful to other teachers in the future. Diagnostic activity inserts some element of inventiveness and research into education as being role expectations for instructional personnel. These expectations resulted in a form of self-confidence for our student teachers, as they realized they could both analyze and control their own and their pupils' behavior in accordance with their pupils' needs. This is the value of developing a system which helps determine for the teachers the adequacy of their learning objectives. It can also be used to determine the adequacy of teachers for certification purposes.

What we are saying here is that learning to behave as a total person requires an approach to instruction which moves the pupil from areas of security to areas of need, and in the process teaches him how to learn-to-learn. It is this confidence in himself as a learner that the pupil needs to learn in the classroom, and with it comes the ability to assess his own learning difficulties and move his basis of security from the easily achieved to a belief in his ability to achieve that learning which is difficult for him. Only then is his security an internal one based on a self-demonstrated worth. So, the pupil needs to learn this system of self-evaluation, if he is to achieve genuine self-confidence.

A gap which such a system would fill in our schools lies in the number of mental processes not specific to a discipline which are unintentionally ignored by all disciplines. Inquiry process learning is content free, and it may be learned within any existing content. What exists in this approach is the underlying structure of learning within the schools which is essential to learning-to-learn. It is this that all content areas, if they are taught in an inclusive way, have in common. So this represents a basis for across-discipline interaction, and it is not a means of diluting content. Rather, it is a way of strengthening and interrelating all content for the pupil and for the teacher. It can be seen that this approach does not represent a threat to special content areas. However, it does provide, through the analysis of pupil inquiry processes, a means of relating any one content to other contents in a way which focuses on the needs of the learner.

SESSION FOUR: *"How Does Pupil Learning Relate to the Determination of Performance Certification?"*

During Hite's session, the dialogue revolves around the value of his systems model for implementing performance evaluation. He, also, outlines some of the structure of performance certification approach now being developed within the State of Washington. Here the criterion problem is faced specifically.

ISSUE: HOW DO WE MAKE THE ASSESSMENTS ESSENTIAL FOR PERFORMANCE CERTIFICATION?

Burkhart: Now there's another base of discussion here, and that is that there are criteria by which we measure these behaviors, besides range. One of them happens to be whether the environment or the behavior of a teacher does promote learning, because we have a definite commitment to that value.

Hite: That's the change part.

Burkhart: That's right. As institutions, we don't really want people in the classroom no matter how many of these things they can do if they're not promoting learning. These are some specific things that we can say, because there are some kinds of activities that promote learning more than others. We can start to break down our value commitments and make our decisions here. This is clearly our school's responsibility.

Hite: What I'm really after is that the learner should be successful in school because of the teaching which occurs there. That's the idea; and the object of teaching, then, is to bring about learning. If this is true, then when we train teachers, the teachers should demonstrate learning, and, when they teach pupils, the pupils should demonstrate learning. It should happen to us, too, we should profit from the experience. I think that I'm saying that this is not exactly what we, the trainers of teachers, do now. We don't really act as if we believe that the object of teaching is learning. I know that when I look at my own past as a teacher, I have more often acted as if the object of teaching was the classification of the pupils, or to have so many seats filled for so many timed periods, at the end of which we had educated people.

In proceeding from the base that the object of teaching is learning, *the teachers first have to define what it is that they'll accept as evidence that the learning they want to bring about has occurred.* They have to describe that. This isn't a very bright idea. It's a very simple, commonly accepted, idea — to be able to describe what it is that the learner will be doing when you're satisfied that he's learning. And secondly, all that remains is to arrange the resources that you have — the media, the environment, the organization, the other learners — in such a way that the individual learner demonstrates and practices this desirable behavior. I really mean, everything that the learner is capable of doing: perceiving, feeling, sensing, being aware. All of this, in my view, is behavior. It's not just something manipulative. On the other hand, the evidence of this behavior has to be overt; you have to be able to see it, and overt behavior is only symbolic of total behavior. The evidence that you can observe is not the total behavior, obviously. Another ground rule here for this discussion: I think learning is a change of behavior, and learning which is taught is learning for a particular purpose. It's a change of behavior in a decided, and perhaps appropriate direction.

The behavior which elicits some kind of appropriate change in pupil behavior then, is the kind of behavior that the teacher should demonstrate. Now, that isn't all that teachers do; teachers do lots of things. But this is the goal in the particular role of instructional manager. Well, taking this one role of teaching, the role of instructional manager, we say that this role may be characterized by one large statement: *the effective instructional manager brings about or elicits appropriate changes in the behavior of the learner.* The next problem is to break that down into what it is that this behavior is made up of.

There are seven kinds of behavior that teachers performed when, in fact, they were bringing about appropriate change:

1. Defined objectives.
2. Adjusted those objectives in terms of the individual learner.
3. Selected appropriate strategy for implementing those objectives.
4. Organized the learning environment, including the children.
5. Interacted with pupils to bring about achievement of these objectives.
6. Then evaluated the change.
7. Defined the next step.

Now, those are pretty gross kinds of behaving, and these in turn, then, may be broken down into components. These represent specific kinds of learning behavior that make it possible to determine whether a teacher is providing for learning.

Medley: How do these relate to Al's certification proposals? Do your ideas fit in with his?

Hite: Well, I would endorse Lierheimer's proposals as I understand them and wholeheartedly, because they fit in with ours. The State of Washington has a new set of guidelines for certification. The assumptions are, first of all, that teacher education and certification should be based upon performance criteria. I think Lierheimer is stating that, and that courses, number of hours, amount of student teaching, and so on, is totally irrelevant. This is stated in there too: that these are indirect and irrelevant conditions for certification, that certification should be based on whether or not the individual applicants for the certificate display what the institution spells out as desirable performance.

Burkhart: That's the school? The institution is the school?

Hite: That's right. There are two different things here. The second point is that the training of teachers is a shared responsibility, and it's shared not only by the college but also by the school district as an organization — as a teacher education institution. And third, by the professional organization of teachers, whichever is the appropriate one for that teacher. These three share in the certification of teachers and the assumption is, and it's stated in here, that programs at the college, at the school, should all be based upon individual kinds of conditions for learning. Now, in a sense, this system's idea is really a pilot study for those conceptions about teacher education guidelines. Now, the preparatory certificate is one which is for the student of teaching and which authorizes him to go into a school. Incidentally, with the preparatory certificate, he can get paid for one year, and it's renewable. The initial certificate is good from one to five years, and it's the period you were talking about. It's essentially the intern period. Yes. He now has the minimum skills that we would say qualify him to be solely responsible for a group of learners. And then he's given the continuing certificate. Once this has been granted, this can be a permanent or continuing certificate, depending upon the school district. On top of that (and not assuming that everybody will get that, or that everybody will get this one for that matter), is the consulting certificate. And for a teacher, this includes kinds of behaviors that are in addition to classroom management. For example, the training of beginning teachers. This is the school district kind of thing with college cooperation, and this one is a joint responsibility of the school and professional organization.

Robison: Well, you're a state institution. If it got your faculty on the basis of 15-1; could you operate this program? And, if you had the talented faculty to carry it out?

Hite: That's a very good question. This, incidentally, is a question that people in our State are asking more than the question about whether or not it does seem to work. That seems to be not so much the concern, as what will it cost. We have a feasibility study to answer these questions which is supposed to be finished this summer. At this point it seems to us that twenty-eight kids in a learning system would require two or three hours a day of professional staff member's time for a semester. This would be about a third of a full load.

Lierheimer: Now, specifically, on what basis do we make these judgments about certification?

Burkhart: So far we have indicated three criteria. One, as Medley indicated, according to the size of the repertoire of skills demonstrated by a teacher as a professional problem solver; two, according to the adequacy of the teacher's inquiry processes, using my grid system; three, as Hite just now indicated, with respect to whether this brings about appropriate change in pupil learning as occurring in the seven steps in his system.

Lierheimer: Yes, that's three we have discussed. Are there others?

Burkhart: It might also be useful to include a teacher's capacity for making self-evaluative determinations as a basis for certification. What we could do is to assess whether or not they can evaluate. We could also give them video feedback information on their teaching to determine their self-evaluative capacities, by Len's system.

Hite: But, he said that he didn't want to evaluate them.

Burkhart: Yes, but I wouldn't do what he wanted. I'd employ his system the way Medley described. During the showing of the videotape, I'd sit like Lenny did and say, "Well, what do you think about that?" Then, I could see whether they are able to observe and reason about their teacher behavior.

Lierheimer: You like Kaplan's system because the teachers are working in that fourth column of evaluation of your own system, and people don't usually work there. They aren't usually engaged in evaluation.

Burkhart: Yes, they're making the teacher work in our evaluative column, and that's one of the places where we should look at a teacher. The demonstrated capacity for self-evaluation seems a very appropriate requirement for certification in a profession in which life-long learning is a necessity.

SESSION FIVE: *"If Adopted, Then What Steps Should COLLEGES Take?"*

The last three sessions are all concerned in very different ways with the question of *"If* adopted, *then what* steps do we need to take?" The fifth session, Bown's, is concerned with: "Steps essential during college to establishing student commitment to learning to be a teacher." He deals with levels of commitment and related teacher-learning problems and achievements. The need for revision in the college system and the personalization of teacher-learning experience is stressed. The two main orientations are a developmental-social, psychological approach to individualizing teacher preparation, and a Rogerian counseling program. In the College of Education at the University of Texas, the new sequence organizes much of the same educational content in a psychological rather than logical fashion, in that it starts with the dynamics of college-age people, proceeds to the study and understanding of children through observation and beginning participation in classroom action, and ends with first-hand study of the teaching role when the students are actively engaged in it. In providing feedback to the student about himself, a battery of objective and projective assessment instruments is used, and a video tape of his teaching is reviewed. The analysis of his responses to this feedback indicates sequential stages of concern during student teaching. These sequential concerns can be identified by the following types of questions which are asked at different stages of commitment to teaching. One: How do I stand? What is my position in the student teaching situation? Two: How adequate am I? How much class control and subjectmaker competency do I show? Three: Why do *they* do that? Why do students behave that way in class? Four: How do you think I'm doing? How do my supervisors and cooperating teacher rate me? Five: How are *they* doing? Are my pupils actually learning? Six: Who am I? What is my identity as a teacher for others?

Bown argues that before pupils' needs and interests could be sensed by the student teacher, his own most pressing needs had to be satisfied. He indicates the student teachers' stage of concern emerged as a rough index of his readiness to learn to teach.

ISSUE: MIGHT A RESULT OF THIS FEEDBACK SYSTEM BE TO MAKE A COLLEGE STUDENT MORE SELF-CENTERED BY FOCUSING ON HIM?

Hite: But aren't these false concerns? I don't mean false in the sense that they don't have them. I'm sure that they have them, but they are with regard to a role that you really don't want them to take, to assume, as a teacher.

Bown: Well, you see, I don't want them to assume a role. I don't want them to learn by rote a system which puts them through the motions of being primarily concerned about the kids because I think that would be phony. We want their concern for kids to be genuine and we think that that has to grow out of a real freedom from these self-centered concerns.

Lierheimer: You're not in a position to move beyond that in the teacher training right now. That's something that you expect to come later, or hope to come later?

Bown: No. We are moving beyond it, and we're really encouraged, and the reason we think that we're on target here is that the old program would have satisfied you beautifully because it was all wrapped up in kids — what do kids need.

Hite: No, it's not satisfying me. I told you in the first place that I agree except that I'm troubled by the inconsistency of your approach. It seems to be one-sided.

Lang: If I can break in for a moment, I think the young teacher there has a dual role. He is both a student and a teacher, and in the sense that he's a student, you should concentrate on his behavior because he's a student of his own behavior to modify his behavior to become a better teacher. From a point of view so far as the faculty of the university is concerned, concentrating on that student's behavior is a student-oriented approach.

Hite: Well, I have faith in it, but I have trouble justifying my faith.

Bown: Well, Lang really gets to the point I am trying to make. One of the difficulties with teacher education is that it has been too primarily concerned with kids and not concerned enough with the student learning to become a teacher. No, I'm certainly not saying that we should not be concerned with kids, but I'm trying to say that in order to do our best job with the teacher, we've got to move her into the center of the stage. We've got to help her to develop, starting with her concerns of a teacher for her pupils. That's different than telling her the kind of role she should play to best suit the needs of the kids. She's got some needs, too.

SESSION SIX: *"If Adopted, Then What Steps ARE Required in Developing Operative Performance Evaluation Programs?"*

The sixth session, Hemphill's, deals with the development problem at the national level of making prototype systems, such as Medley's, Kaplan's, Burkhart's, and Hite's, into operational programs which other institutions can successfully adopt. He sets up a series of steps through which a program needs to pass if it is to be widely employed. Hemphill's session moves directly into Lierheimer's where the resolution of these various issues is seen as calling for the development of a statewide assessment center which would coordinate these efforts toward the development of a performance evaluation system. The evaluators then bring some finalization to answering the question, "If adopted, then what steps do we take next in the State?"

FIRST ISSUE: HOW DOES PROGRAM DEVELOPMENT OPERATE IN CONTRAST TO RESEARCH?

Burkhart: Well, John, as a Director of a Regional Research and Development Laboratory, do you find that research and program development activities conflict, and not only as to essential differences in approach, but also, as to their oppositeness in values?

Hemphill: Development is quite a different operation than research. It places the value questions in quite a different way. I think of a researcher, and I have tried to be one at times, saying that he's not concerned with values, that he's dispassionate. He looks at things as they are. These are facts. The value questions he'll leave to others. We try, as researchers, to keep the value questions at low key. In development I think we have to face squarely questions of values and take positions. It's not a matter of finding out something; it's making something happen that counts.

Let me go through what we think is, oh, a rough parody on how a development in education, or anywhere, comes about, as contrasted to research. First, we believe you have to get well acquainted with research. You find out what is known from research, but that's usually not enough. You look at what is known from experience, and that's a lot more. It's opinion, experience; what man has learned by trying to do the job.

Second, you start about bringing all the parts into what you might, by analogy to engineering, call the design stage. Eventually, you shape it up as a prototype, a model, a rough breadboard idea. You then want to try it out in the real world to find out if you got something done here that is going to have some possibilities.

In the third step as we see the operation, we go to another field test of the revised model of our product. This we call a *basic field test.* It is a place where we determine whether the thing that we are trying to produce will perform to the *specifications* we've set for it. Well, it's in our basic field test that we set up what looks most like research, what it is really, essentially, a controlled test of the thing. The test is not made in the real operating world at this time. The field test is passed if the thing works as we said it would work when we set the specifications for it. Now, I swear probably every educational development stops even before you've gotten here, but the ones that get here never go on to what is the obvious next step, and that is to make this thing ready for operational use.

Fourth, we have to go to another set of operations. We build all the manuals to teach the training materials, everything that is needed to introduce this into normal operation without ourselves needing to becoming involved. Once we have solved this problem, we then go to what we call our operational field test, and we do just exactly what we say. We turn the thing over in this form, it's package form, to the operators, and we say, "Here. Why don't you try to use this?" When they do, and we don't ask them whether it's working to specifications, because we already know that it will. We ask them, "Can you use it? What difficulties do you have? What's missing in the manuals and so forth that you need to tell you how to operate this program?" If we're lucky again, we then may have something that with some minor patching does not require additional operational field testing. When we have a development that's worth a hoot in the field, we know it can be used, because we know it works to specifications — there are no ifs, ands, or buts. We have a lot of other things that are in the mill, but let's talk about the one that went through the mill, what it's like, and how it's relevant to what's going on here. At the same time I'll say a little bit about the value problem, because I have to as I go into it still further, if I'm to give a fuller answer to your first question.

What we have that's been through an operational field test (that means that we know that it works to specification, and we also know that people can use it) is a short course that we call a mini-course for inservice teacher training. For example, one aspect of it has to do with teaching teachers to use questions effectively in discussion situations. We're interested in change in the teacher's behavior specifically in the way that she is asking questions. We wrote down twelve specific objectives that we wanted to accomplish. For instance, we noted that we thought we wanted to teach a teacher not to answer her own question. This, in a discussion situation, seems to be a little bit ridiculous, because if you want to lecture, go ahead and lecture. Don't use a discussion section to lecture; many teachers do. The value that we wanted to achieve there was, in a sense, zero; that is, the limit we set was zero. In terms of this behavior, we wanted to drop that one clear out. Well, we went through each objective and set our specifications in similiar terms.

In order to do this, we developed some materials that we thought might get teachers to change their behavior in the directions provided by the objectives? Our design has a lot of good psychology in it, as far as learning is concerned. It provides immediate feedback and a chance to try again. And then some more feedback. This makes, from a learning theory view, pretty good sense for training complex behaviors. Essentially the mini-course model, provides an instructional film in which we present instructional concepts. It suggests to teachers very specific ways of behaving to cut down, let's say, their talk, and to increase the student's. It gives her a whole raft of very specific techniques. Then the teachers are asked to prepare a discussion lesson to be taught to a small group of their own students from their own classrooms. This is inservice training, you see. Teachers have children available upon which to practice learning since they are teaching at this time. We make the mini-course a part of their on-going activity. So we ask them to bring in four or five of their students to the place where the video tape equipment is set up the next day, and teach a discussion lesson trying to use these principles that we've been teaching them in our instructional film.

Then the teacher sits down and views her video tape. The first viewing is just to see herself. We don't give them any particular instructions except to, "watch how you did it." After the first viewing, she is instructed to rewind the tape and use a checklist that is provided, that very systematically has her judge her own performance with respect to these things that we are trying to help her to learn. Next, we ask her to prepare another lesson, to try to teach it again, to try to improve in these areas, and to get better in these skills.

Now, in the second go-around on the micro-teaching, the teachers bring a different group of children from their classroom, and they teach a second lesson. They follow the same procedure, including a guided critique of their own performance. Then, they are asked if they would not want to bring in a fellow teacher to sit through their tape with them. This is a peer taking the course at the same time. If the teachers are willing to accept someone else to sit down and look at the tape with them, they can criticize one another. This means that their view of the instruction is not quite so idiosyncratic. Then they can see things differently, and they get a more generalized view, but you note (I don't know whether you note, or not, because I didn't say) that this is the only time that anyone else is involved in their training. This is absolutely outside of the supervisory hierarchy.

Well, our course is made of four of these three-day sequences, each section of the course taking a very small section of the total twelve behaviors and running them through. In our basic field test, we have discovered changes in teachers' behavior. They are big changes, and in the direction that we wanted to go. Now, we say, "in the direction that we wanted to go." One thing that I want to make clear here about values is that we're not dodging the values. We say that these are things that teachers should do, and we tell you just specifically what they are. If you disagree with us, you just don't have to use our course. Now, we're not happy with our authoritative values, and we hope that in the long run we can get enough courses together so that it is sensible to do some sort of validation of our value statements against student learning.

Jennings: John, there seems to be an implication back of this specific mini-course which might have revolutionary, if you will excuse the expression, implications. There is a presumption, almost, that a group of classroom teachers can come together, eventually even under their own direction to decide on company time, thank God, that they will undertake the governance of their professional behavior. Eventually, this includes their looking at the received curricula and saying, "This, in our professional judgment, is not adequate to the task." You're going to have new job descriptions written there, after a while, if this happens. You're going to have teachers taking full professional responsibility for the running of their shops. You're going to have them evaluating each other.

SESSION SEVEN: *"If Adopted, Then What Steps Do We Take Next in the State?"*

Given this groundwork for the development of operational programs relating to performance evaluation on a national level, the symposium moved immediately to the consideration of Lierheimer's question to the participants, "What is it that you propose, operationally, that we do in this State in the next five years?" This was the challenge to the symposium to be answered during his session.

FIRST ISSUE: DO WE START PERFORMANCE EVALUATION BY WEEDING OUT THE UNFIT?

Hemphill: Last night I had an idea that we might, at the State level, start by simply requiring that schools and colleges send to the State a very detailed plan of the way that they are weeding out the unfit, and that's all. This would provide a great amount of feed-in into the development of the better system, one that's going to have to go. You'd begin to make people think about, "What is unfitness?" The question of going the other way, of defining what a good teacher is, seems to me to be out of our reach right now.

Lierheimer: Yes, and it may not be the State's business. That may be local business.

Hemphill: I wouldn't want to agree with that. I think that that is the State's business, but I don't think that the State can do much about it right now.

Lierheimer: All right. The State's business may be to work with the place that can do the job and give them, from this end, the necessary support.

Jennings: One of the responsibilities of the State is licensure, whether it be for driving automobiles or teaching in the classroom, and it must be so. Again I refer to the hippocratic oath — at least weed out those people who might do harm.

Hemphill: Yes, but what I say is that the State should simply take the steps in saying to each school and each college that is preparing teachers, "Think about it seriously and send us a definite plan, and we're going to check up to see if you are using that to weed out the unfit. We want to know how you're going to do it. We want to know you've thought about it. We want to know that you're doing something about it."

Lierheimer: But you gather this information first. You don't do it and then say, "Well, we don't like the way that you're doing it," or "We do like this way." I think John's notion is that you could begin this tomorrow, use your same crummy system or some modification of it now, but at least gather this and feed it into the right places, so that you will begin to get a body of evidence. You say, "This is the way that people are making decisions." You begin to see some common elements to it then.

Hite: I like the idea that you're placing the responsibility on the institution in a way beyond something like counting courses. In visiting institutions for our State Department for these six or seven years, the most sensitive area is the one that you've pointed to. It's where, I think, the greatest malpractice in teacher education exists. I think the capricious decision by people in profesional education about who shall, who shall not, become a candidiate for teaching is harmful.

SECOND ISSUE: WHO DETERMINES THE DEFINITION OF "GOOD" TEACHING AS IT RELATES TO PERFORMANCE ON THE JOB?

Hemphill: I think the problem is not that we don't know what a "good" teacher is, but that we know too many things about what a "good" teacher is. From these we could construct a good teacher in any way that we want to, and all of us have said, "This is the way a good teacher is to be." And I don't think that there's anything that you'd do about that except jump off from that standpoint.

Medley: Does he want to certify the kind of teachers that I like or that you like or somebody else likes? Is that the kind of thing he wants?

Hemphill: He should certify the kind of teachers that I like, and I should be held accountable in their teaching, for why I like them. And so should you, for the kind you like.

Kaplan: You describe the person you're going to hire, the person you're going to prepare. You describe him and say, "Here, this is the kind of person I need and believe to be a good teacher."

Lierheimer: All right, but after you describe him, taking an extreme, supposing you describe a real nut, one that ten out of eleven people would agree is a real nut. Should the State say, "Yes, but he's described it." Well, that's not enough. Sooner or later someone's going to say, "That teacher sounds lousy." Somebody's going to make a value judgment pretty soon about whether they like it or don't like it and why.

Hemphill: Either I'm going to make it, or you're going to make it, Al.

Lierheimer: I want to know on what basis it should be to make.

Hite: Well, he's given you a basis. John says in effect, "I will tell you the kind of teacher that I'll turn out, and I'll try to describe this in a way that is meaningful to you. Now I think *this* is a good teaching." If you don't agree, then I think your responsibility is not to authorize us for training of teachers in State Certification.

Lierheimer: What standards does the State use to accept his and reject him . . .?

Kaplan: If I wanted to hire the kind of nuts he produces, how would the State prevent me from hiring them?

Jennings: By and large, it seems to me that educators, all of us, are guilty of misplaced modesty. Every single one of us at one point or another these past couple of days has confessed that we do not know what a good teacher is. Every single one of us pretty regularly in our careers, while they were attached to making decisions about who's a good teacher and who's a bad teacher, made these decisions without any equivocation whatsoever. All of us who have talked with colleagues, for example, I talk a great deal with both public school and private school people, principals and headmasters — who have no confusion at all in their minds about who their good teachers are, who their poor teachers are. Mind you, never bad, just poor. They won't specify, however, in any manageable way that any of you people would be willing to rush through a grid. You can't quantify what it is they employ as a basis for making these kinds of decisions. These judgments have been arrived at on a basis, first, of the experience of the administrator, and secondly, as a result of a rather long association with the individuals. In other words, a performance test always goes on. I suppose I'm saying, "Sure, we have performance criteria. You know it, I know it," but this "sorting out" language is almost supersonic, as we haven't used the ordinary systems of talking to each other about it. We're assured that you know, and that I know and that we know, and that's the end of the discussion. Nothing more need be said, but, when we're confronted by your challenge, Al, someone is going to have to put this on paper. Someone is going to run it all the way through the legislature and a few other places. Then money is going to become involved, and then the careers and lives of the future teachers of our State, and hopefully of our nation, are going to be involved. So now, it must be put in words, that will be our task.

**Czurles:* We talked today about a teacher facing in one direction, facing the students. She is a professional teacher then, but not a professional educator. To be a professional educator she should face both ways, and on the basis of what she saw happen on this side of the coin, she should turn around and challenge the behavior of systems, whether it's the course, or a curriculum, or certification, or length of time, or something else. The profession, if it is a profession, must grow from within, not from somebody on the outside legislating its direction. We are concerned about the poor teacher and the good teacher, but we are also very concerned about making the teacher as professional as possible, so that she is continually contributing to an evolution. At present, she may have to break some barriers when she backs up and looks at teacher colleges, at certification, at curricula and something else, but until she is equipped to face both ways, education is not going to be changed. It will be frozen at the top.

THIRD ISSUE: WHAT KIND OF ORGANIZATION IS ESSENTIAL TO MEET THE PROBLEMS OF PERFORMANCE EVALUATION?

Burkhart: We are not alone in our problems — this is clear. As times goes on, because we are involved in carrying these ideas forth more fully than we do now, the student teacher, the intern and the inservice teacher will come in and say, "I'm ready to be certified, for such and such," or, "I would like preliminary certification now for a job; I think I can meet performance standards," or, "I would like to go through a series of those tests and have someone assess my competency." We are going to be involved shortly in many extremely tight types of things. We're going to have to develop instructional systems; we're going to have to develop evaluators; we're going to have to work on role definition; we're going to have to develop a new kind of principal. We have a great many new things that we must do. And, you know, I can see troubled looks here, but I do believe that this is going to require some organization beyond our existing boundary lines for these purposes.

Medley: You said earlier, Al, that the State has a responsibility to monitor the teachers that are going into the State. Now, I wonder whatever happened to that scheme that John and I proposed, not the details, but the general point of view, which was that the State Education

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*NOTE: Czurles is an Honored Observer and Director at Art Education, Division of the State University College at Buffalo.

Department would evaluate the output of a college, the product, periodically, to see that this individual institution was not turning into some sort of a diploma mill. That it was turning out a reasonably good teacher on the average. The State would have no responsibility for evaluating individual teachers; this would be left to the college, but the State would be around to see that the college was not turning out inferior teachers. Didn't that seem to be a more reasonable approach than to try to turn this whole thing over to the college? I like colleges and I respect them, but I don't think that they should have that much power.

Hite: Well, I think that what happens anyway is that this is what the college actually does. It adopts whatever it is given, and it goes with whatever integrity it has.

Medley: Well, I'm an old measurement man, and I can't see each one using its own criteria, and then putting them into one package, and saying anything about the average teacher in the State, or what he's like.

Hite: Yes, that's right.

Medley: Someplace there ought to be a way to get an estimate in each year to the Commissioner, saying, "This year the average teacher in the State is of such a quality." If the estimate is too low, then some move could be taken to improve it, and, by gosh, next year you'd notice an improvement over the State as a whole.

Hemphill: Al, I'd like to come back and make a proposal slightly modified from the one Don and I made three years ago to you. I want to modify it because you pointed out some objections to it that you discovered in those three years, or knew at the time, perhaps. It might be feasible for the State to recognize the kind of state of confusion we're in and may be in for some time. How about setting up the so-called teacher assessment center of teacher behavior, bringing samples of students from these various programs that these various colleges would be authorized to pursue, evaluating these with the best available instruments under the best circumstances, bringing teachers in and giving them Medley's treatment and all these treatments. The center could act as the place for further developing the measurement of teacher performance, as a place to begin to accumulate the evidence as to what kinds of programs work and in what ways, not as a control device, but to someday recognize you may in time want to have some basis for setting standards and control. Just frankly recognizing right now, which I think is clear to anyone if he wants to admit it, that we don't know how to do this job now.

Lierheimer: What you're saying is that this is a data gathering bank.

Hemphill: This will be a research study in a sense.

Medley: It's a bank for two institutions, the college and the schools.

Hemphill: It will be a bank to the institutions of how they're doing with respect to a set of standard measures that apply to the various programs. It would feed the best of the research and development that gets done in this area in a place where this could be furthered. I don't know what it would take to run such a center, but a couple of million dollars a year budget would do a wonderful job here.

Medley: Yeah, you could manage.

Lierheimer: What you're saying is that if you're going to be so permissive as to say, "Well, you tell us the kinds of standards you're going to use, and if you can describe them in some sort of behavioral terms, we'll buy it." You're saying that if you've got some of those going, you ought to have some place in which you look at them and begin to analyze the stuff and make some kind of sense out of it.

Medley: You look at their products.

Burkhart: That's the coordinating institution I was mentioning earlier, that I think is central to the whole thing. And that's the institution around which people who could train teachers could learn an awful lot through apprenticeship practice in doing assessment. They could then slowly move from training positions out to these leadership positions in the schools.

Lang: I think the complexity of the problem indicates the significant need for the research which would be coming out of an assessment center, I don't think any assessment center worthy of its name would design an instrument which they didn't test and validate by longitudinal studies into the careers of the teachers. I think part of its pattern would be that there would be these followups, and the fact that different viability and different school systems is also a part of the complexity of the problem. Certainly the people who would be operating this kind of sophisticated system would be cognizant of that and would be working with the multiplicity of test instruments and a followup studies.

Jennings: I know that we would develop from this what Al is looking for; mainly, a minimum standard for entering into the teaching profession or for staying in the teaching profession. I certainly believe that we would develop some very valuable insights into the teaching profession, and I'm confident that we would develop very good training materials.

FINAL ISSUE: IS PERFORMANCE EVALUATION FEASIBLE?

Lang: We have reviewed a number of presentations going in the direction of teacher performance, and I would like to observe (I don't know where it falls on your chart from those that I heard.) there are some essential similarities, and those similarities are: one, that all have feedback to the student teacher or the teachers; two, all have structure, whether it is a grid or a checklist pattern; three, all tend to give a self-confidence to the practitioner who is using them, and I think that derives in part from structure and in part from confidence in whoever developed the grid or the instrument; four, all emphasize self-evaluation on the part of the teacher, and I think that this is essential for the professional. In his lifetime, he should be evaluating himself as he goes along. I think that there is some difference between the element of supervisory evaluation and the element of evaluation by the college faculty. I see a danger, and I would urge that it is the responsibility of the college faculty to prepare teachers in a responsible way. They, therefore, must take a direction, they cannot be permissive. They must state their values. They must set a direction. I don't think setting a direction is necessarily stating a formula; no one would propose that. But what is important here is the development of a direction which would be flexible and have ample room for the personality and character and abilities of the teacher. I think the great value of the instruments that we have seen is in the training area rather than in the performance evaluation area. This is especially true because I don't believe that the validity of these instruments or the reliability of these instruments have been assessed in followup studies yet, so we don't know if they make a difference in practice. Yet, there is a responsibility for exercise of expert judgment, and you must make your decisions, and you must go with whatever your objectives are, whatever your philosophies are. Do the best you can, and I wouldn't quarrel with that at all.

Going to the question that Al asks, "Is performance evaluation a valid approach to certification?" I think that it is evident that it is *not as yet in our time, perhaps lifetime,* a valid approach. Certainly it hasn't yet been validated. I think that that question was answered by John earlier this afternoon. I wouldn't be too concerned about it as Frank Jennings pointed out, and I don't think that it's a question of panic, because the certification process for the teaching staff differs from the certification process for the bar, the legal profession or the medical profession, in an essential feature. A teacher doesn't go out and practice as an individual in his own frame of reference. He doesn't establish his own class. He is employed, and, therefore, there is another agency involved, and when you certify him, he is not thereby hired, and there is no school system that must hire him.

Finally, with performance evaluation there is a probationary period which in itself is an adjunct of certification. There, I think it might well be that permanent provisional or regular certification, the final stamp of approval, ought to be given by the State after a school system has certified that the person had served satisfactorily through a probationary period.

Hite: I don't like to sound parochial. I'm kind of forcing this, because I can't help but note that what Dr. Lang was describing as the view of provisionary period is the program that we entered into in our State twelve years ago and have dropped. We could save you a lot of trouble. Our past program is already written up almost exactly as described. What bothers me . . . It doesn't bother me. Maybe it's a dang sight better than what we propose to do here, you know. A lot of people may think so, but you don't have to invent the wheel. There is a community of interest here, so there is an interchange about what's going on. There are other people with programs of State certification like the one Dr. Lang has just proposed. What has been their experience? Why, for instance, do some of them now think, as we do, that something else might be better? Do you necessarily have to go through all that? I don't think so. I just wonder if there is some way to share and profit from these experiences.

Jennings: Robi?

Robison: I would like to begin by making a few comments on the various papers that were presented by the participants, who represent various aspects of the research and development frontiers, I presume, of our current educational scene. I think it's very interesting that each one has apparently attempted to get a hold of a bit or a piece of the teaching-learning process, and to develop a focus on it so that it becomes a meaningful unit of a process. I want to applaud this, however, I'm not sure that the whole pattern of teacher learning in its segmented parts does fit together like putting beads on a string in order to create a necklace. I'm not sure what the overall pattern of this process is that all of us engage ourselves in as part of our professional living. Nevertheless, I do applaud you for what you have been attempting in your work, and it seems to me like your contribution as we approach this matter of performance evaluation has relevance for our thinking.

Now, coming to this matter of performance evaluation, I have the feeling or belief that each generation of American educators must have their day on the stage and they must have their opportunity to make their big contribution to the American educational scene. Back in the late thirties and early forties when I first entered the teaching profession, I was tremendously excited over the deficiencies that I found existing on the American scene. I tried my hand, of course, at rewriting holy writ, and I found sympathetic audiences in some areas. I found caustic critical audiences and other people. Nevertheless, I did have the satisfaction of having a go at it. It seems to me like the performance criteria for certification represents a young man's game. As I look around the stage, I'm somewhat abashed at the number of clean, almost unwashed youngsters, that surround us here, and in some ways it's reassuring that there is a generation of youngsters who are about to undertake what I, among many, will applaud as being a worthwhile project. So they want to take our whole package, take it apart and have their inning at putting it back together. I suppose that we can be philosophical about this.

Lierheimer: I would say that we don't really have a choice of relying on the system that we have, because the system that we have really isn't any system. I would not want to use that as a backup while we do something else. I really think at this point the chips are down. You have to move ahead on this thing or give it up entirely. I mean give up State certification as a device entirely.

CERTIFICATION CONCEPTS FOR PERFORMANCE-BASED ASSESSMENT

Assumption—course completion would no longer be considered a basis for certification. Certification would be determined continuously at differing levels throughout a teacher's career within an instructional setting.

Definitions:

Effective Teaching — demonstrated teacher behavior which promotes specific learner gains within a narrowly defined area.

Competent Teaching — demonstrated wide range of effective teaching behaviors including range tests for: inquiry processes; professional skills; and, content mastery.

Evaluative Teaching—demonstrated self-evaluative activity as a teacher.
—demonstrated self-evaluative activity for the pupils.

Effective teaching behavior represents the basic criteria which must be satisfied, and a wide range of effective behaviors assures competency. Self-evaluative teaching behavior assures continued learning for the teacher, and if the learner becomes self-evaluative, this is assured for the class:

Systems: Conditions for Certification

1) Co-operative designation of criteria or objectives which will set the specifications for effective, competent and evaluative teaching behaviors. The cooperative group would be made up of representatives from the school system, the college and concerned professional organizations.
2) On a statewide basis, this effort would be coordinated by an assessment center, which would be a data bank for these institutions and a research analysis organization for the validation of their criteria. The center would also act as a resource center for the development of performance evaluation programs. This provides for institutional evaluation for the above activities, including training activities.

Professional Responsibilities for Certification

1) The college is to provide competency as a wide range of effective teacher behaviors. What these competencies are will have been arrived at co-operatively with school systems.
2) The teacher determines when to apply these competencies in the classroom.

3) The school system determines whether these competencies are appropriate for their district and whether the teacher is employing them effectively.
4) The State is to determine whether this entire system is operative, and it supports the leadership which is provided by its assessment center.

Stages for the Development of This Program

All of this must be preceded by a series of pilot studies through field tests to develop its operational effectiveness. They need to begin immediately.

opening statements for national symposium

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J.SEE

THE "GREEN STAMP" THEORY OF TEACHER-EDUCATION

E. K. Fretwell, Jr., *President,* State University College at Buffalo

Buffalo State University College is indeed proud and pleased to welcome all of you to the National Symposium on Evaluation in Education. We think this is an exciting day in the history of evaluation. We are responding to a challenge, "Give Up the Ship," thrown out to us by Dr. Alvin Lierheimer and his colleagues in the Division of Teacher Education in the New York State Education Department, to develop a whole new way of looking at evaluation of teaching. Dr. Lierheimer suggests that the State Education Department should work more on making teaching attractive, getting good people into it, helping them to evaluate themselves, and helping colleges and school systems to evaluate them. This is much better than merely maintaining a sort of "green stamp" center or place where green stamps are defined and then passed out by colleges. What I'm talking about here is the old way of certification where you have three green stamps of this and two green stamps of that, and by definition, you are a good teacher. This is a lovely thought, but I'm not sure that history has borne it out so true.

The "green stamp" theory has been worrying me for a long time because if we get green stamps in a store, we take them down to a place called a redemption center. Then I'm not sure whether either higher education or state government should get involved in the business of providing redemption!

More seriously now, it would seem to me that what we need is a new joint arrangement, whereby colleges and school systems and the public (which has a big interest in teacher evaluation) can work together. I think this will have a vital influence on how colleges behave, how they perceive their roles, and on how they carry out a little self-evaluation of themselves and their teaching as well. I would think this might have some influence on the future structure of colleges that have a strong commitment, as we do, to teacher education. It would certainly bring about new relationships between colleges and school systems. As we respond to this challenge, before we "Give Up the Ship," we should all work together to determine what the *new* ship is going to be and how, if necessary, we retain our crew. So again, I say welcome. It is going to be stimulating. It is going to be perplexing, and we think it's going to be successful.

I said a few moments ago that I thought some interesting things were happening in the State Education Department, so I'm particularly happy now to introduce Dr. William E. Boyd, Chief of the Bureau of Teacher Education, whose subject (and please note the alliteration) is "The Shape of the Ship-Shape Ship of State."

The Shape of the Ship-Shape Ship of State

WILLIAM E. BOYD, *Chief*, Bureau of Teacher Education

From the title, which was not my own, I assume that I am to talk about the shape of teacher education. The term ship-shape connotes good condition, favorable shape. Such is not the condition of teacher education and for many reasons.

Teacher education remains somewhat amorphous partly because we in the United States have never quite understood what we want our public schools to accomplish, but even if we knew with great clarity and widespread agreement, some major problems would still exist. Public school teachers in this country have never enjoyed as high prestige nor as favorable financial rewards as members of other professions and a reflection of this was to be found in the institutions largely or wholly devoted to the education of teachers—the normal schools or teachers' colleges. Recent years have seen a shift in almost all of these institutions toward greater emphasis on liberal arts with an attendant diminution in the *time devoted* to pedagogy. (I stress the *time devoted* to pedagogy rather than emphasis upon pedagogy, for I feel that some decrease in proportion of time spent in the study of pedagogy *need not* seriously hamper its effectiveness. More about this later.)

Some observers feel that the reshaping of teachers' colleges into multipurpose institutions has faced us with a double-barreled threat; has served to reduce the members of graduates prepared to teach and has reduced the specific preparation for teaching even as society's expectations for accomplishment by the schools is burgeoning. Some of these observers maintain that irreparable harm has been done to teacher education just at a time when the need for well-educated and well-trained teachers is greatest. What they really mean, however, is that colleges no longer have sufficient time adequately to prepare teachers *using traditional methods and curricular patterns.*

Those of us in the certification business haven't helped matters very much. Working on the assumption (which most people are willing to accept) that a minimum standard of preparation is desirable and can best be administered by a central agency, we have allowed ourselves to get boxed into an uncomfortable posture if not a completely untenable position. At the behest of a variety of well-intentioned groups, minimum requirements for teacher certification have become a welter of specifics, and a spectre risen to haunt certification officers, a bucket of eels and any of you who have tried to catch an eel know that the tighter you hold it, the faster it slips from your grasp. The figure of speech is apt, for exactly this sort of thing is happening in certification. We try to hold what we have been told are high standards only to find that some of our own technicalities are excluding some very capable people from teaching. Flying in the face of Commissioner's regulations and the recommendations of various professional societies, we wryly admit that qualifications to teach are not at all times in all places the same. That's one big truth we have only begun to grasp.

And there is another truth that continues to elude almost all of us: the real focus of all of our efforts is children, children seeking adoption into our society, children whose needs will be served whether by responsible agencies or by demagogues or by street gangs. Who among us looks to children to evaluate the effectiveness of teacher education? Of what value is a planned collegiate program, a carefully constructed curriculum with its poor relation, practice teaching, if children are not learning from the teachers we turn loose?

Colleges and (I'll have to say in embarrassment) State certification agencies have been paying close attention to the *process* of teacher education while assuming that the product would take care of itself. And the process has gone on largely unexamined, unproved by reference to quality of product. This is partly the result of mutual self-preservation. (The terms sound contradictory; they are not. I protect myself by helping you protect yourself and hope you reciprocate. I won't attack your course in William Blake if you don't question the relevance of my course in History, Principles, and Philosophy of the Secondary School.) So it's mutual self-preservation, but it's also a lurking fear that examination of the product will be so shocking as to destroy all of our confidence in what we do.

Yet there are some glimmerings of hope. Some colleges are altering their curricular patterns, are unabashedly identifying teacher candidates early in the undergraduate years and are providing planned experiences to bring these students early and continuously into contact with real, live children and in the settings in which the children live. They, the colleges, are seeking ways to improve the education, the training, the preparation of the beginning teacher. True, they are re-shaping the *process,* but some are honest enough to take some hesitant peeks at the product, to seek feedback (to use an overworked term) the better to program the process. They are beginning to use some of the technological tools, some long available, some recently introduced, to expand the opportunities for teacher candidates to learn, to practice, to examine, to experiment, and the process is, in some places, becoming more efficient; more realistic experiences, more opportunities for learning, are being provided per unit of time. The situation is getting better but not fast enough. I am here as an observer, but a deeply concerned observer, to learn ways in which we can improve the process of teacher education through techniques of assessment of the product. But I have a deeper concern: I have two young children who may very conceivably be subjected to the teaching of a member of the class of 1968, and, quite likely, because of teacher turn-over rates, to the class of 1972. Will the class of '72 be any better than that of '68? If not, it's partly our fault. What are we going to do about it?

The Admiralty and the Rowboat

Robert C. Burkhart, *Symposium Moderator,* State University College at Buffalo

I would like to thank you both for the quality of the leadership and your purposefulness, and I think your depth. I'm pleased to start out in deep water, because I think that's where we are. We're going to launch a rowboat now, and that's our symposium. I imagine our splash will be small, but we will try our best. I want to introduce you to the other people at this magnificent launching. I never hit a rowboat with a bottle of champagne, but maybe this is the day to do it.

It might be interesting because the word *national* is sometimes used to mean where people come from. I have a little idea that's connected with their air route to add to our thoughts, shortly. Beside me here is Herbert Hite, from the State of Washington, way *up* there; and John Hemphill comes from Berkeley, California, way *out* there; and then Lenny Kaplan, from Florida; I think that's way *down* there. Then we have a representative from the State of Texas, Dr. Bown, *over* and *down* there; last we have Dr. Medley who comes all the way from New Jersey; and right in the middle of all this is Vince Gazzetta, from Albany. He's going to be the whip we need to face the challenge of the State. These are our participants. They will probe and needle one another so that we get more specific in action, but we have feedback built in. And rather than having feedback right at the end, you know, when you learn that you've made all those mistakes, we want to have someone really assume the responsibility for our faults and provide us with continuous evaluation. So we've elected a "board of admiralty" for our rowboat, and it's right here. We've put our Vice President, Houston Robison, in charge of the "admiralty" for the morning, and beside him is Ted Andrews, who's going to be our recorder for the committee. Beginning this afternoon we'll have Dr. Theodore Lang, Deputy Superintendent of the Board of Education from an eastern port called New York City. Someone who doesn't believe in ships is Frank Jennings who will be here from the New World Foundation—he's coming in by train. He's from the *Saturday Review,* also. I think he has a good feeling for the nation, so he will look at this from that point of view.

Now, I did an air route map of all these coordinates to Buffalo from Florida, Texas, California, Washington, and even New Jersey. When I finished I found that this formed a picture of a star over Buffalo. I hope that this star resides over New York State for some time. So, here we are, with our rowboat and a steadfast star on which to fix our compasses as we begin to row.

List of Participants, Evaluators, and Special Contributors

Participants

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Dr. Leonard Kaplan, Director for Human Resources Institute of the University of Florida, Gainesville, Florida.

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the language of teacher behavior

donald m. medley

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The Language of Teacher-Behavior

To me the most important substantive finding is a strong suggestion that the seminal problem in improving teaching may be perceptual in nature: that the key to helping teachers change their behavior may lie in helping them see behavior — see what they themselves — and others as well, are doing. St. Paul said, "Ye shall be compared to a man beholding his own countenance in a glass, for he beheld himself and went his way, and presently forgot what manner of man he was." This is what happened to these student teachers. They saw themselves on television teaching. They saw all the mistakes they made, and God knows there are lots of them. They saw what little they did right. Then they turned the projector off and they went back to the classroom, and whatever they did had nothing to do with what they saw of themselves, as they did not know how to perceive themselves. A language of teacher behavior provides a vocabularly for self-perception for the teacher.

Dr. Donald Medley
Educational Testing Service

Issues

One. What is the state of practice in teacher education? Is it adequate ?

Two. What positive recommendation do you have to improve teacher education ?

Three. When should we give a permanent certificate, if ever ?

Four. What kind of models for learning are we supplying our pupils and our prospective teachers ?

Five. If we did do a good job of bringing about learning in the classroom, would it be worth doing with our present values ?

The Dimensions of Teacher-Behavior

DONALD MEDLEY

Introduction

Burkhart: Our first presentation, and it's really not a presentation, it's a dialogue, will be with Dr. Medley. Now the last time I talked with him was six years ago; he got me into a conversation, and it changed my direction and my thought. The direction that he changed me to was the one that is represented by this symposium. So if you *don't* listen to him you might be better off. However, I was listening to him then, because he had just been involved in the analysis of what I considered the most classic study of teachers and student teachers done in the area of performance evaluation. It's the one he reported to us in his summary and findings. It's classic for a number of reasons. It was painstaking, I'm sure, in that hours and hours were spent on thousands and thousands of kinds of judgments which were made. It was one of the very first careful looks at teacher behavior. Then he and Dr. Mitzel got together and wrote a chapter for Gage's *Handbook of Research.* That's the most often recorded reference that I've seen in articles involving performance education. It's a classic guideline . Now, I didn't expect this much solidity and leadership from him, and he's sort of misleading in these respects, but this is what he has done. I'm glad to have him open our symposium for this reason.

FIRST ISSUE: "WHAT IS THE STATE OF PRACTICE IN TEACHER EDUCATION? IS IT ADEQUATE?

Burkhart: In my mind, Dr. Medley had been always associated with someone who sat outside the ring in order to look in to tell us what was happening. But, occasionally he gets into the ring, and on one of those unfortunate occasions he said the following thing: "I'm afraid that the content of teacher education as it relates to the practice of teaching, resembles that of a young 'witch doctor' as he learns from an old one, much more than it resembles that of an engineering student as he learns from his engineering professors. And that the content of teachers' libraries, which resembles the witch doctor's list of recipes more than the engineer's tables, is made of mostly a kind of folklore passed down from generation to generation of teachers. This is supplemented to some extent by the opinions of 'experts' who have observed many teachers at work and formed some hunches about which of the things they do are good, and which are bad. Insofar as the folklore of teaching has value, it makes today's teachers slaves of the past by providing no basis for sound innovation in improving the art." Now Don, as you heard me say it to you, do you want to take it back ?

Dr. Medley: I think that's the model that many people have: that teacher education is learning what teachers do. That's how it works. What we need as a basis for teacher education, evaluation and certification, is to begin to develop a science of teaching, to begin to study it as it is, and also to study it as it ought to be or the way it might be. The taking of the first step, to begin to study teachers in the classroom *as they are,* has been a revolutionary development in education which has occurred quite recently, largely in the last decade. These studies, of course, go back to the influence of Anderson who worked at this problem in the mid 40's.

H. H. Anderson and his colleagues in a series of *Applied Psychology Monographs* (Anderson & Brewer, 1945; Anderson & Brewer, 1946; Anderson, Brewer & Reed, 1946), along with other pioneers like Withall (1949, 1951), and Flanders (1960) have demonstrated that at least some aspects of the classroom learning environment can be measured reliably. The instrument I have developed over the last several years may be described as a direct linear descendant of the Withall technique and a godchild (or a stepchild) of the other two. After preliminary experimentation with the categories Withall devised for coding transcriptions of teachers' verbal behavior (Mitzel & Rabinowitz, 1953) had indicated that their use to record behavior "live" in the classroom could yield reliable information (Medley & Mitzel, 1955), a simplified version of Withall's category system was incorporated into an observation instrument called OSCAR 2a (Medley & Mitzel, 1958) and used in a study of New York City teachers (Medley & Mitzel, 1959).

Although Withall's categories did yield quite a satisfactory measurement of one dimension of the learning environment, it became more and more apparent that there were other dimensions which were not being measured. In a study designed (among other things) to measure changes in the teaching styles of student teachers (Schueler, Gold, & Mitzel, 1962), an attempt was made to modify the Withall category system to make it sensitive to some of these other aspects.

One of the problems experienced in using earlier systems grew out of the fact that coding the verbal behaviors required the observer to infer the teacher's intentions and to classify the behaviors on that basis. This requirement has always seemed to us to limit the objectivity of the classification procedure, since the crucial inferences on which the classification depends must be based on subjective judgments about unobservable phenomena.

A more fundamental objection is that since the teacher's intent is not directly relevant to the problem of assessing environment, why try to infer it? Pupils respond to behaviors, not intentions. Even though the intentions of two teachers may in fact differ, if their behaviors are identical, the effects on classroom climate must also be identical (unless the pupils happen to be psychic!). Even if the observer could somehow detect the differences in intentions, such distinctions would be useless. Behaviors should be classified on how they do appear, not on how they are supposed to appear. The first step wasn't really taken until we took some backwards steps, to see what had been done in the area of the study of teacher behavior. When was it, about 1960? So that question is a little bit old. The question came quite innocently out of our shock, when we went to the literature to see what the state was. We had the advantage of Dona's and Titamen's annotated bibliography of 1,000 entries which brought us up to about 1950, or the early 1950's, to which we added whatever we could find since. In the chapter of the handbook, we pointed out that these were studies of teacher behavior which made teachers effective. The general model for these studies is to get a sample of teachers, get a criterion of how effective each teacher is, and then analyze what the teachers do. Hopefully, you can find differences in those who are effective and the ones who aren't. The logical and obvious criterion, of course, is how much pupils learn from them. We found only 20 studies in which a criterion of this type had been used. The rest of them had used non-learning types of judgment. The second element in such a study is a careful analysis of the teacher's behavior and the requirement that we set was that it be an objective analysis. That is, that it be not a retrospective account of what the observer thought the teacher did, but an actual account of what he saw. We located approximately 20 studies which met this criterion, but there was no overlap between the two.* Using the criteria, we set in looking at this literature, there was *no* research in the field. This is kind of shocking, to us it was shocking, a result that made me make the statement about the witch doctors.

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*NOTE: So as to bring Medley's review and analysis of educational research up to date we did a similar evaluation of 1966-67 doctorial studies. We found a low proportion of performance research based.

Burkhart: You mean 960 studies out of 1,000, in your opinion, had been wasted?

Medley: They either lacked a criterion for pupil learning or lacked a measure of teacher behavior. We did examine the criterion of judgments of teacher effectiveness. We located a number of studies in which multiple criteria had been used. Some criteria were based on pupil gains, some on ratings by supervisors or principals, and the unanimous conclusions of all these studies was that whatever the principals were basing their judgments on was not correlated at all with pupil learning. If you took the teachers and ranked them according to principal's judgments and then reranked according to pupil learning, the two ranked orders would have nothing in common. It's a different kind of teacher who impresses raters as effective.

Hite: I think the following would reinforce what Don said: in trying to train supervisors or other people to use an instrument for recording the behavior of the teacher it was found that the more they had done, the less reliable they were. They seemed to have sort of built-in models, at least that's my hunch. Perhaps a person like a principal, or a person like a helping teacher or a supervisor of student teachers, has some way of seeing that just defeats the attempt to be objective about another person's behavior.

Medley: This is the principal of measurement that is often violated in this area. You have to separate the description of the phenomena from the evaluation. A person who has an evaluative role to play has to make a judgment of good or bad; he is the last person in the world that should be trying to describe what is going on. These things seem to be in complete conflict with one another. This is what killed 50-60 years of research in this area, a bad criterion. We know more about what kind of teachers can get good ratings from a principal than we need, and less than we need to know about what kind of teacher will have a good effect on pupils. Some people use pupil judgments as a criterion, and the results of these studies are essentially reproduced by the principals' judgments. The pupils like the same things the principal likes. They like a teacher who has a quiet, friendly, peaceful classroom. Did you ever think what a principal has to do to decide how effective a teacher is? He has to walk into the classroom, look at the pupils, estimate each individual pupil's ability, estimate what part of that progress to attribute to the teacher, and then combine these for all the pupils in the class, come up with a mean, and say, "This is how effective the teacher is." When you try to do this with measures of pupil gains, it is quite a complicated statistical problem. When we ask a principal, who has many other responsibilities, to drop in and watch this teacher a while, and tell how good the teacher is, it is a ridiculous assignment.

Burkhart: Do you think this is one of the reasons why the supervisory process wasn't effective in the very comprehensive study that you did of student teachers ?

Medley: No, I think the reason it wasn't effective was because there was no effective communication between the supervisor and his student teacher. Our model in the study indicated that the direction of improvement would be the same for all student teachers. When two student teachers change in different directions, we assume that one of them might have been improving, but they couldn't both be. This is not entirely true. Goals for individual student teachers may be different; some may need to talk more and some less, and so on. But just the same, it seemed reasonable to us then, and it still seems reasonable to me, to assume there are some common elements of teacher education. Everybody took the same courses, took the same examinations, got graded on the same keys, so they also were using this model. Against this criterion you could find no effect of supervision at all. We didn't have a known supervisory condition, but we had as mixed a bag of supervisors as you could imagine — very different in their point of view and what they were trying to do — and yet, we could find no difference in effects.

Everyone seems to agree that in his first attempts to teach, the novice teacher should have available whatever help he can get from the accumulated wisdom of the teacher education faculty, as represented in the person of the supervisor. This process does not seem to have been working very well lately — if, indeed, it ever did.

Robison: This is of more than passing concern to a person who has the responsibility for the academic program of 6,000 undergraduate students, 95% of whom are already committed to careers in education. We have spent several generations in putting together an organized program which in our judgment would result in the production of interesting, exciting and competent public school teachers. If we are to be convinced that what we are doing is woefully inadequate, those people who make this charge, which is passing under the guise of educational research, will be expected to sustain it with something more than the mythology of the witch doctor.

Medley: The experiment was carried out in a campus elementary school in which a number of classrooms were linked to the education department of the college by a closed-circuit television system. Three student teachers were assigned to each class used in the study, and all three of them worked with the same college supervisor, the same cooperating teacher, and the same pupils, during the same school term. However, each of the three student teachers in the same room was supervised by a different method. One teacher received a normal procedure (control level treatment), being observed in her teaching five times during the semester by the college supervisor and conferring with him after each visit. A second teacher received similar treatment, except that during each time the supervisor observed her teaching behavior a kinescope recording was made of the same behavior. The film was available for viewing and discussion during the supervisory conference which followed each visit. The third teacher in each classroom was not visited by the supervisor at all, but five times during the term a kinescope recording was made of her teaching, at the direction of the supervisor, who was present in the control room while the recording was being made. A supervisory conference was held after each session in which the film was available for viewing and discussion.

In addition, two films were made of each teacher during her first two weeks as a student teacher, and two more were made 13 weeks later during her last two weeks as a student teacher. These films were not shown to the students or supervisors at all, but were used only to assess changes in behavior over the semester. Behaviors recorded on the 216 assessment films were observed and coded by three trained observers, using an observation schedule called "OSCAR 3." The 216 behavior records were then reduced to standard scores on eight orthogonal factors or dimensions. The 1,728 scores were subjected to an analysis of variance which yielded, among other things, estimates of the relative magnitudes of components of variation associated with a number of factors hypothesized as affecting student teacher behavior and changes in it. The eight dimensions in themselves may be of some interest to you as they do suggest a theoretical structure.

**Eight Dimensions of Classroom Behavior:* The first three relate to the way the teacher structures his own role in the classroom. PRESENCE refers to the degree to which the teacher presents an appearance of competence, of professionalism, to the observer; it is manifested most obviously in the orderliness of the class, but also in the control the teacher exhibits of his own voice, gestures, and movements. The second and third dimensions have to do with the teacher's strategy in dealing with the content of the lesson. The INFORMATIVE teacher provides the pupils with a lesson that is challenging in the sense that the amount of content they encounter is high and well organized. The IMAGINATIVE teacher presents a lesson which is stimulating in the sense that the material is presented in original and creative ways, and ways adapted to individual differences. The next two factors seem to relate to the type of role the teacher permits (or requires) the pupils to play in the classroom. ACTIVITY refers to the amount of task-oriented activity the pupils exhibit in class. PUPIL INITIATIVE has to do with the sequence and scope of class activity rather than its amount. These five dimensions describe the noneffective climate of the classroom—the cognitive learning environment—which the teacher creates and maintains.

The remaining three relate to the affective climate—the emotional or motivational environment in the teacher's classroom. CONSIDERATION refers to the amount of sensitivity or awareness of pupils' needs or feelings a teacher's behavior reveals. WARMTH reflects the amount of enthusiasm or excitement a teacher displays when responding positively to a pupil statement. DISAPPROVAL measures the extent to which the teacher uses reproof and critical rejection of pupil statements in his teaching.

In our own theoretical formulation stemming from these eight factors, we have defined three stages or levels of teacher behavior in relationship to teacher behavior in relationship to teacher effectiveness. On the first level are those behaviors related to the maintenance of a classroom climate favorable to learning. It is our contention that given such an environment, a normal pupil will learn whether or not the teacher may be said to have "taught" him anything.

On the second level are those behaviors related primarily to the conduct of learning experiences—making certain that the pupils undergo experiences designed to achieve the goals of instruction. If the pupils undergo appropriate learning experiences in school, certain specified learnings may be expected to result.

Finally, on the third level are those behaviors which maintain each pupil's involvement in the planned learning experience by adapting the environment and the planned experiences to the needs, abilities, etc., of the individual pupil and assuring that each pupil achieves up to his full potential.

These three levels of affective behavior are seen as progressive; that is, each level can function only insofar as the one below it has been achieved: only where a favorable learning environment exists can pupils profit from planned learning experiences; and only if the experience provided does indeed produce progress toward a particular goal can full involvement result in learning for all the pupils. As to the results, of all the variation among the 1,728 behavior scores, we were able to explain 40 percent in one way or another. The typical student teacher's behavior at the end of the experience, then, differed from his own behavior at the beginning of the semester just about as much as it differed from that of an entirely different student teacher. This statistic indicates that the experience of each of these girls as student teachers produced profound changes in her teaching behavior—or, to put it another way, that a great deal of learning took place during this time. The uniform effect of experience accounted for approximately one-fourth of all observed changes, for all student teachers, regardless of supervisory method or the use of television recordings. In terms of the *a priori* definition of teaching skill used in this study, this reflected a tendency for all student teachers to become more skillful as a result of student teaching.

The changes in teacher classroom behavior which appeared in the experiment could be interpreted as representing a general rise on all eight dimensions, as an "improvement," except that there are significant shifts in pattern. Most striking is the change in the nature of the pupil role: after student teaching the typical class shows much more *Task-Oriented* activity (+ 8.2 T-score points), but just about no increase at all in *Pupil Initiative.* The pattern of teaching style also shifts; teachers become relatively more *"Informative"* and less *"Imaginative"* as a result of this experience. They increase in the number of concepts they are able to introduce into a lesson more than in the originality and aptness of the way in which they deal with their concepts. These teachers seem to be getting more competent in a rather dull way, but not any more exciting or stimulating.

As to the rather small differences we found among the various supervisory methods, the direction of that difference indicated, unfortunately, that those teachers who were *not* visited by their supervisors were the ones who "improved" more, if indeed the difference was not a chance one. Two conclusions may be drawn from these results: 1) The supervisory process as implemented in this study has no effect on teacher behavior; 2) Closed circuit television feedback as used in this study does not make supervision any more effective. We are somehow failing to make effective use of two very powerful agents: television and the experienced supervisor. The problem is to make feedback information available to the student in usable form. The most important substantive finding is that the seminal problem in improving teaching may be perceptual in nature: that the key to helping teachers change their behavior may lie in helping them see behavior—see what they themselves—and others as well, are doing.

Our problem, as I see it, is to help the student teacher remember what sort of teacher he is—and try to do something about it. I am by no means convinced that we need kinescope films to do this, although they should be a great help. If I were supervising student teachers, this is where I would look to improve what I was doing. I would be trying to learn to observe—to measure—student teacher behavior myself, and to help my students to learn to do the same thing. To do this we need a language of teacher behavior.

SECOND ISSUE: WHAT POSITIVE RECOMMENDATION DO YOU HAVE TO IMPROVE TEACHER EDUCATION?

Robison: Dr. Medley, would you comment further as to just what findings or specific research-based suggestions you are prepared to support in this area of the language of teacher behavior?

Medley: For many years research in teacher effectiveness was unproductive, largely because researchers kept falling into an old but still dangerous booby trap. Unwary investigators even now are trapped in it. I refer to the assumption that it is possible to order the teaching behavior of a sample of teachers on a single dimension of effectiveness so that each teacher behaves more effectively than the one just below him and less effectively than the one just above him. The one fact that stands out in the body of research results up to now is that there is no such thing as a single dimension of effective teacher behavior: different teachers can be equally effective and yet behave quite differently, and some ineffective teachers act more like some effective ones than each other.

We have found it useful to visualize a space of many dimensions, each dimension of which is a dimension of teacher behavior. Any teacher can be represented by a point in this space determined by his behaviors on all of the dimensions.

In order to better understand what this process involves, it may be useful to envision the concept of the *teacher behavior space* as having *N* dimensions. The profile of the N scores describing a behavior sample would be made up of the N coordinates of that point in the space. The teacher seeking to change his behavior would need to know three things about the teacher behavior space: 1) The location of a point P, representing a sample of his teaching behavior; 2) The location of a point A, representing the behavior he would like to exhibit; 3) The relationship between P and A—the dimensions along which they differ, and how far apart they are on each one.

As far as feedback goes, the supervisor's function is to help the student teacher in locating points A and P, in studying the relationship between them, and in deciding how the teacher ought to change his behavior on each coordinate in getting from P to A. I would call the terminology describing the points, axes, and dimensions of this space the *language of teacher behavior,* and distinguish three levels of application: speaking, reading, and writing. The student teacher would need to speak the language—to know what the important dimensions of teacher behavior are. The supervisor would need, in addition, to read—to locate behavior in the space. The master teacher, even further, would have to write—to emit at will behavior at a specific juncture of coordinates. The professional sequence in education should include instruction in the language of teacher behavior as part of almost every course the teacher takes, and should be organized around this concept.

How can we develop or learn such a language ? Three ways might be considered: 1) Rating teacher behavior; 2) analyzing teacher behavior; 3) measuring teacher behavior. *Rating* is a procedure in which the rater observes the teacher's behavior and then attempts to estimate directly the location of the observed behavior on each dimension being studied. *Analyzing* is a process in which the behavior sample is broken down into very small units, and the meaning of each one is determined as accurately as possible. *Measuring* is a process in which an observer records teachers' behaviors by coding them as they occur in a form which may later be scored along dimensions of behaviors. The potential use of ratings seems to be limited chiefly to evaluation; the principal role for an analysis is in building up our understanding of the structure of the behavior space; measurements based on structured observations should supersede rating techniques in the supervisory process.

Structured observational technique is a procedure in which the observer looks for and records only certain behaviors, or aspects of them; it does not require the observer to weigh, compare, or evaluate behaviors, but it is necessary to define the categories so that the required discriminations can be made quickly, reliably, accurately, and without appeal to anyone's expertise. Like an IQ test, on the basis of a relatively small behavior sample of items of small intrinsic importance, it is possible to get a highly useful index of general ability. A danger of such techniques is that specific items observed may become confused with the actual behavior dimension measured. Once an observational technique has been developed to measure a dimension, it will be found to be more objective and accurate than any rating scale, and just about as valid as, and more quickly used than, any instrument developed for analyzing behavior.

For our first task then, that of helping teachers develop an understanding of the teaching process — to speak the language of teacher behavior — we may be able to use all three techniques: analysis, ratings, and structured observation. For our second task, helping teachers — and supervisors — learn to recognize where a behavior sample is located in the behavior space (learning to read behavior), we must use structured observational techniques. For our ultimate task of educating a teacher to exhibit a specific behavior whenever he wishes to ("writing" behavior), our tool is the language of teacher behavior itself, used not only in the supervisory process but throughout the professional training and career of the teacher.

Andrews: I'm interested in implications of what I hear. One, that may be incorrect, but I can see many people following, is that supervision as it is constituted, is ineffective. Now, we have been saying to colleges vocally for a long time, "Supervision should be better." We are told that it is one of the most costly elements of the teacher education program; for example, two visits is not uncommon in New York State, four is probably typical. If the colleges find out what we're talking about and decide that they don't need supervisors at all, because really it doesn't make any difference, they would feel this was a major contribution at least to the budget (if not to the program). I noticed that you made some rather interesting remarks in your paper about the fact that five days of visits was insufficient for helping the teacher learn, and you wondered whether the process really had worked. What would you do about it?

Medley: It depends a lot on your instrument, I would say.

Burkhart: You mean if I had a good instrument I could go into a classroom, record what the teacher had been doing, give him feedback, and have some effect on him in five visits? That is, providing I hadn't been a supervisor for too long.

Medley: You should ask Dr. Hemphill. They do it with films. I would say it would depend entirely on what you did. I am sure you could do that; you could change teacher behavior if you were operating effectively. You could talk to the teacher about what he was doing and what he ought to do and so on. That is what I mean by a language of teacher behavior. May I tell an anecdote ? At the end of the project we talked to one supervisor about how she used the films. (It occurred to us rather late in the study that this might be relevant.) Now, supposedly, the supervisor of student teachers sat and looked at this film to discuss changes in the student teacher's behavior. This particular woman said, "Well, I didn't say anything to the student teacher because this is a very sensitive area. But when she did something that was particularly bad, I looked at her and she understood." We didn't think too much of this. But we also interviewed the students, and believe it or not, one of the students said, "Well, Mrs. So-and-so didn't talk much. We just looked at this film, and when there was something there I had done particularly well, she looked at me and I knew." Do you see why I say we need a language ? Assuming that the supervisor had something worthwhile to communicate, it wasn't getting through.

Burkhart: You did mention Dr. Hemphill. How about it, John—you mean you've really been able to straighten out this business in California ?

Hemphill: I would be going too far to say that. I think we have some very interesting and exciting starts.

Burkhart: You have been able to change teacher behavior ?

Hemphill: I think so.

Burkhart: I think you said earlier that you had really done it. Would you want to tell us a little bit more about it ?

Hemphill: Yes, I think that we have in one area — a very specific area, using a very structured and definite approach, micro-teaching and some very specifically constructed materials — been able to demonstrate rather dramatic changes in teachers' behavior as a result of going through this particular exercise. It does not involve just being instructed. First, they practice what we're trying to teach them, and then they get built-in feedback as they go along. The behavior that's changed seems to hold up even after three or four months. We've been back to take another record of teachers' behaviors, and they are still doing the things the way they did during the course, not the way she did before the course. This encourages us to think that these are rather permanent changes in behavior that we've been able to make in these teachers.

Burkhart: Are these just managerial changes that a principal would be more pleased with, like better order and quieter pupils?

Hemphill: Well, they're changes that involve interaction between students and teachers; for example, one of the things we count as an indicator of these changes would be the length of a student's response to a question. In the sample that we have before the course, if I remember my numbers correctly, the length of student response was about six words on the average. It was doubled after the course. Now this is all of the answers given by students. Obviously, they're thinking a little bit more about the answers, if they're using more words to express their responses. That's just one minor example.

Burkhart: I think, Dr. Medley, you mentioned one of your measures in the study that you did was concerned with pupil initiative. What about pupil initiative as a basic way of getting at teacher behavior?

Medley: It seems to be a very stable characteristic of teachers, which means we haven't been able to change it much. It doesn't change much in the way things go now. I am almost sure that if the Far West Lab built a course to help to teach teachers techniques for getting pupils to show more initiative, they could produce some changes. But this isn't done now. Nowadays, a student teacher goes into a classroom, watches the cooperating teacher, talks to the supervisor five times a semester, is pronounced better and sinks or swims by himself. They do change a great deal, but they change east, west, north and south. Each one apparently was in there trying to figure out how to improve himself, like a swimmer at sea not knowing which way the shore was.

Bown: We are sending teachers into enormously different situations, and I would say that the evidence is pretty clear that we may be sending boys to do men's jobs in some situations. In other words, we are not really equipping [illegible] teachers to confront the kinds of problems with kinds of kids with kinds of learning difficulties that they're actually running into. If, in our rather carefully controlled ivy towers and training situations, we're giving them a small glimpse of only one segment of the real world of the public schools, then it may be that we're really missing the boat in terms of what they really need.

Medley: Well, I have got two thoughts about it, if I can remember the second one after I talk about the first. There are really two countenances to evaluation of teachers. If you're talking about evaluation of the teacher in the school system, I think it may be proper there to look at his effects, because you have a situation and need somebody in that situation to produce certain achievements. If a particular teacher doesn't, it might be well to replace him. This, to my mind, is no necessary reflection on the teacher's training or his competence. It just means that in this situation he doesn't function. But the kind of evaluation we're talking about at this symposium is something else. It's an evaluation essentially of a teacher's equipment. How prepared is he ? Does he have the necessary tools ? And to mix up that with this evaluation of effects on pupils, to me, seems to make the whole situation impossible. If I understand it correctly, we don't license or certify physicians or lawyers in this way. We don't count the number of patients a doctor has and who get well, and, if he doesn't get a certain percentage of recovery, we don't give him a license. We try to find out whether he knows how to treat patients. We assume that each patient is an individual problem, and the doctor that's going to be the best is the one who has the widest repertory of skills. We don't require that lawyers win a certain percentage of cases before they can be allowed to practice. Now why should we take teachers and say that a teacher has to have a certain amount of success (in whatever class he is in) as a basis of certification ? If we evaluated teachers on the basis of success with a particular class, we still wouldn't know how he would do with another class. I think we all look at a teacher and see whether this teacher is a professional. Does he have the skills and knowledges to go out into a new situation and deal with it.

Burkhart: You're saying that you are convinced that there are certain basic performance skills that can be measured which can be seen in most classrooms. For example, we could see them in Dr. Hemphill's laboratory on his tests, and we could evaluate a teacher by them. Then we could stand a reasonably good chance of thinking that, unless something occurred in that situation that was unusual, we had certified the right person.

Medley: What can you do ? We don't have the research. It is not at the state where we can identify the skills or sort out the ones that are actually crucial to success and those that aren't. But we can begin with the things that we teach in teacher education, and, as we go along, we can begin to find out if we're doing a poor job. We can begin to isolate the ones who are doing a poor job of teaching.

Burkhart: Can we make these judgments, can supervisors learn to make these judgments, and can we do the thing with the supervisor that will make for effective use of his time and television feedback ? What are some of the specific things operationally that we can look for ? Maybe there isn't a full house, but what are a few of them that you think we ought to look at and can teach teachers and supervisors to look at ?

Medley: It depends a little on where you are. In the geography there are different points of view. You can look at the technical skills that they are identifying and processing out in California. It is a promising approach. You can look at the kind of thing they're trying to do down in Texas, where they're trying to help a teacher understand himself, understand what approach to teaching works for him (and that's about as specific as you can get at this time). We can look also at whether he is operating on enough levels of your model. A teacher who is working in all sixteen of those cells is probably using a sort of shotgun approach. But maybe he's got the right one among the sixteen, even if we don't know which one it is. I'm grappling with this problem all the time. If you take Bown's proposition, which I am inclined to do, that it is an individual matter, then the best thing you can do is look for the teacher who has the widest repertory, the broadest preparation, and hope that the right thing is in there somewhere.

Burkhart: Well, that makes me feel good. Because, if a teacher is really flexible and we can demonstrate that he can operate in a lot of ways, then we can take care of the problem of individualization. We can hope that he can learn what's relevant.

Medley: If you really think of a teacher as a professional problem solver, then you will want to select your teacher on the basis of the one who has the biggest kit of tools for problem solving and put your money on him.

THIRD ISSUE: WHEN SHOULD WE GIVE A PERMANENT CERTIFICATE, IF EVER ?

Gazzetta:* If you look at it from our point of view, there's a question of "when" we certify. Is it at graduation ? I don't think that anyone here is satisfied with the present setup, because we've all been essentially criticizing the traditions that have built up over the years. Coupled to this "when" factor, I think I hear the necessity for looking at the school district as a training unit, as a continuation of training. Maybe the "when" is not the date of graduation, but sometime after there has been some additional training.

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*NOTE: VINCENT GAZZETTA, Chief of the Bureau of Inservice Education, represented Alvin Lierheimer, who was meeting with the Regents during this session.

Medley: I don't like the idea, as you know, Vince, that at some point in the teacher's career he becomes a teacher, and then he's had it. And from then on he can rest on his laurels. Many teachers assume the point of view, that when they've got all these ditto masters all made out for their courses and have all their tests built, then the rest of their lives consist of preserving that without going on. We do foster this point of view by having permanent certificates, temporary certificates and so on. We put a stamp on a teacher and say, "Now you're a teacher, you know it, and your training is over." Haven't I detected in some of the things Lierheimer said, though, about stages in certification; you give someone a license to go out and get a job, and then later on after he has proven his success in the job, you give him a license to stay there. And then he gets a gold watch, I suppose, when he retires — that is about the way it is now.

Burkhart: We do that at the college level, also; would you want to certify a college teacher?

Medley: That's a very sensitive area. You notice that the colleges run just about as well as the schools. Of course, it's the student who does the learning. Are you familiar with Steven's work on schooling? He has a very interesting theory that everybody is a born teacher, and that teacher education doesn't really have that much impact.

Burkhart: What do you think of it?

Medley: I think he's about 80 percent right.

Burkhart: You mean that if we could get the selection processes straightened out, locate the right person to begin with, then we can solve almost all of the problems of certification?

Medley: Oh, he doesn't think everyone is born to be a good teacher.

Burkhart: Oh!

Medley: The teachers who are trained are very little different from the ones who don't have it, because what we give them in teacher education is what they already have; how to tell people things they don't know, how to correct them when they're wrong.

Burkhart: I see.

Medley: The message I get from his book is that teacher education better find some way to improve on this natural base. Something new. This is what I see. Like your ideas, or what Kaplan is talking about. Or what this whole business is doing. We're trying to find something that the teachers aren't born with, something we can give them that will be new and make them better.

Burkhart: That kind of hits this gap that Kaplan is thinking about, because he's talking about the affective taxonomy. I wondered whether this means an increase in the emotionalness of the classroom and pupils. Are we just going to have a more motherly environment?

Kaplan: I was just thinking about the analogy you were making between the professions of medicine and education. I have this kind of dialogue with my neighbor, who is a surgeon. Fortunately, our fatalities live, and I think that every now and then and shudder.

Burkhart: A teacher can't bury his mistakes.

Kaplan: I don't know, Bob. We're not looking at behavior to evaluate it so much as to describe it. To go back to, for example, your discussing college supervision. In a study I did about two years ago, I was concerned with whether there was any type of role consensus as to what a college supervisor does. I went out and asked student teachers, sponsor teachers, and college supervisors what they thought a supervisor does. It was rather interesting to note that there was little or no agreement in the college supervisor group which led me to believe that that's a rather interesting phenomenon. The student teachers had a hopeful attitude as to what they think they wanted the supervisors to do. They were talking about what should be, rather than what is.

Burkhart: I believe in listening to our discussion here, that what we're saying about the college supervisor — that's primarily my job, you know and our center's job, we're all in a way college supervisors — is that we really ought to be put to bed or sent some other place or replaced.

Medley: You don't do any harm, Bob.

Burkhart: I'm wondering what it is specifically that you're telling me that I ought to do and that our staff ought to do. What of your instruments — if you could get us, as stubborn and obstinate as we are, if you could get us to pick up two or three of the things that you think would be best. What would you have us really do?

Medley: I would let you take your choice. We have an instrument now that detects sixty-eight different things that teachers could do. Most teachers don't use more than ten or twelve most of the time. A teacher's behavior is constricted. Apparently, he just doesn't try all of the different things at his disposal. I have confidence in a teacher's ability to select a good way of behaving in an individual instance, if he had a behavioral repertoire at his command, but he doesn't. He doesn't know how to do these things. In your study with the inquiry model. Teachers don't know how to exercise all these muscles.

FOURTH ISSUE: WHAT KIND OF MODELS FOR LEARNING ARE WE SUPPLYING FOR OUR PUPILS AND OUR PROSPECTIVE TEACHERS?

Burkhart: We have very narrow models by which teachers learn in our classrooms, both in the colleges and in the public high schools. The exercises they see in their teachers are "push ups" and nothing else. You could get tired of looking at push ups, and of doing only these also.

Hite: One of the things mentioned was the sort of continuing change or lack of change in the teacher, in their progress as a professional. It seems to me that maybe the environment creates this. Does it not? What about the effects of this very powerful single model that's usually the only thing offered to the student teacher? And then there isn't much change in the teachers where they practice. How else could they have a very large repertoire of ways of interacting? They've only seen variations of one model.

Medley: This is what disturbs me about the emphasis on the clinical approach to teaching. To go out and imitate another teacher as a basis of teacher education is not going to improve education, particularly if you take seriously what Oliver says, that the teacher may get into the wrong kind of a model. We've got to open up the possibilities. We've got to give to teachers . . . well, I use the metaphor of a language. A teacher has to know all of the different things that a teacher can do, all the different skills he might have, the different ways of giving his content, and so on. I'm willing to do this with very little value on one or another. Just present a teacher with a repertoire of things to try in the classroom. If you can get this opened up, Bob . . .

Burkhart: If you had that large list of 68 things, could you name six that a teacher doesn't generally learn to do, that you would like to have him learn to do?

Medley: Our instrument is concerned with progress. For example, we have an item there in which a teacher offers a child a choice of what he's going to do next instead of telling him what to do. He says, "What would you like to do?" This is rare.

Bown: Could I reinforce this, Don, by saying that one accidental finding we got in one of our studies concerns building an objective means of getting at pupil-teacher interaction. We had a number of films of experienced teachers, and we were using these to work out a system that presumably would contain more flexibility of teaching behavior than our novice student teachers. We were totally astounded, in trying to build a logical categorical system, to find that as we tried to get at various categories of pupil response, they were virtually nonexistent. We got intrigued with it. We discovered that the average pupil in the particular films that we were using made an *independent self-initiated* statement about once every three weeks. This ran through all of his classes, and by this I mean that we were looking for a response that really came out of his own head, out of his own curiosity. Now, they talked more than that, but they essentially are trying to match the answer that the teacher has in the back of her head, that she expects them to give when she asks the questions. We took a look at this in some of those classes where the teacher is a devotee of the inquiry method, which presumably would increase questioning. We found a very subtle sabotaging of the spirit of inquiry, in a sense that many, many questions were asked, but they were all the kind that implied that there was a right answer in the back of the book.

About six months ago I was talking to Phil Jackson of the University of Chicago, and he became intrigued with this same thing, but at the nursery school level. Now most of us think of nursery school as being a place where kids are relatively free. We're not terribly preoccupied with the academic curriculum at that point. He studied this in a very progressive modern type of nursery school with a lot of professional beef in it. He even studied in great depth the physical movements of these youngsters, but he found that the kids were actually free to initiate and carry through an action only five percent of the time, that is, roughly speaking, it was right in that neighborhood; ninety-five percent of the youngsters' actions were essentially dictated. Now this is astounding and kind of unbelievable. I don't think a teacher could believe that she was doing this. I'm sure it would not correspond with her intellectual intent. When we talk about a lack of flexibility, and when we talk about the fact that it is the student who learns, I question if we have this kind of atmosphere in which this degree of absolute control of conformity is the mode, then I am not sure that we've moved very far in really freeing kids to learn.

Burkhart: Well, Don, do you have any suggestions as to specific ways of helping them learn, new and less narrow, or broader and more flexible ways of teaching ?

Medley: The first thing I would do is to help these students see what's going on in the classroom in terms they can understand or remember and to think in these terms when they're teaching themselves so that . . . you like to put in quotations. You know, I have one at the end of that paper. May I read it? It's from St. Paul. "Ye shall be compared to a man beholding his own countenance in a glass, for he beheld himself and went his way, and presently forgot what manner of man he was." This is what happened to these student teachers. They saw themselves on television teaching. They saw all the mistakes they made, and God knows there are lots of them. They saw what little they did right. Then they turned the projector off and they went back to the classroom, and whatever they changed had nothing to do with what they saw on the television screen. If you didn't show them those television pictures of themselves, they changed just as much and proved just as much.

Burkhart: Dr. Kresno looked at the Stanford material, and he looked very carefully. They had micro-teaching worked out to the point where they thought they could really do the job by having these little micro-situations and training teachers in them. He had written a large paper before he had analyzed the data about this material, and when he analyzed the data he found that the better people got worse.

Medley: That's a minor technical problem. You got them to change and make the first step. You mustn't underestimate the difficulty in getting people to change their teaching behavior. It's very difficult.

Burkhart: Then you're saying, "If we can get them to alter their behavior, to be as unlike in the end what they were like in the beginning, that is an accomplishment of significance." I thought that wasn't a sufficient criteria for learning for you, Don!

Medley: Change in itself isn't a sufficient criteria, but doesn't it make sense to say that you can get a teacher to vary his behavior, to behave differently on Monday or Tuesday? Then you can get him to watch the results. If he has a repertoire of things to try, and if he knows what he's doing and can see the effects, can he learn to be a good teacher himself and further improve throughout his professional life? If he can't do this, then he has no way of improving. If he doesn't know what he is doing and can't see its effects on his pupils, a teacher finishes his day and says, "I had a good day today. The kids learned a lot." I say, "What did you do?" He doesn't know what it was.

FIFTH ISSUE: IF WE DID DO A GOOD JOB OF BRINGING ABOUT LEARNING IN THE CLASSROOM, WOULD IT BE WORTH DOING WITH OUR PRESENT VALUES?

Burkhart: I was wondering whether those of you who are looking at us (Honored Observers) and feeling what we ought to be doing rather than what we are doing, might have some observations that would help us at this point.

Turner:* It seems to me that there's a whole question of style involved in this, and whatever commitment an individual teacher has towards service and being with other people is tremendously important. The thing that preoccupies me, if you like, is how do you discover this style?

Bown: Yes, I've really had to restrain myself to keep from diving in here. The idiosyncratic nature of the developmental process for each teacher is one of the things that makes this whole business a very complicated thing to get at. As you said very simply, and these are very familiar words, some teachers need to learn to talk more and some of them need to learn to talk less. This is a very difficult thing to handle statistically, as you know. We are looking for some sort of magic mean or magic ideal, that, in a simple-minded sense, we might first assume is our aim in teacher education — to produce some kind of standard product which we might dub effective. We don't think you get there that way. We think that people bring very different kinds of resources — as people, as intellects, and so on — into teaching, and, as much as we preach in colleges of education about individualizing education for youngsters, we do very little of this for those people who are going to go out and teach. This is one of the very difficult problems that we've faced. We've tried to get more and more to where pupil gain is a criterion of the effects of going about helping teachers to improve. Have you got a good answer to this in your hip pocket for me?

Kaplan: You know, we've been trying to develop an experimental program in elementary education. Our staff is taking it from the point of view that many of the kids who are tuning themselves out to what goes on in practically every classroom are doing so because they feel they have no stake in what's happening. No one ever asked them about what was going on in the classroom. They were not involved in any decision-making process at all. But people somewhere, who are usually referred to as "they," decided what good, what was right, what should be taught, and how it should be taught, and how it should be evaluated. All of the good things that they know is good for the student. I remember taking castor oil because my mother thought it was good for me. I never knew why, but it was good for me. And this is how I believe many of the kids are reacting today. Some people are telling them what is good for them, and I think we failed miserably to bring the learner in any way, shape, or form into any of the ideas of what's going to happen to him.

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*NOTE: ALEC TURNER was an honored observer from the Instructional Service Center in Toronto, Canada.

Burkhart: Well, Herbert is sitting right here and he says there's a very simple point. What's the simple point ?

Hite: Based on a study that we did a couple years ago, regardless of what you do to help the beginning teacher, once they get in that classroom with responsibility for youngsters, the teacher gets worse. And then apparently this shock of the real world is so great, that many teachers never do recover. But if given help, they may recover at a rather slow rate. In this study, the beginning teacher started somewhat lower in competencies and skills than experienced teachers and then got worse. If they were given help, they got better. So what you observed here, Bob — you know about things being worse and change being not for the good of the teacher — may be something that happens because of change in the setting, change of the environment.

Medley: Maybe all that teacher education needs to do is to keep the teacher as a medical model, keep the patient alive, so that he can get over the disease. Give a teacher enough preparation so she can survive in the classroom long enough to begin to learn how to teach there. I think that's the last desperate resort, though.

Hite: Remember, you said that they do seem to get better in time, but not in a very exciting way. I wonder if this isn't what happens with experience. They improve what they're doing, but what they're doing may not be very useful, may not be very important.

Medley: They certainly don't improve in the ways that the teacher education faculty would like to see them improve. They get a little better control of the class, and they get so they put out more information. The kids answer more questions, and so on. But they don't get more imaginative or creative; they don't get really better. They just learn how to survive.

Burkhart: What I hear is that you have said that not only the training of teachers is bad, but also the places they are learning to be trained are pretty bad, too. What they have been doing for years is really unsatisfactory. Also that people in time learn to adjust to an unsatisfactory situation in a satisfactory way. You seem to be suggesting that we not only have to change the college way of preparing teachers and the teachers themselves, but we also have to change the school system. All three have to be changed. I think that this is really the purpose of having us here.

Medley: Outside of that, everything is okay.

Burkhart: Something bothers me. You sound a little like the 1920 advocates of progressive education and the beautiful child. What are you offering as research people that is really useful and profoundly different, so that we don't make the same mistakes in the next fifty years that we made with these wonderful philosophical generalities about the lovely child ? How are we going to change this system ? How are we going to do something more than advocate that we be attentive ?

Kaplan: While I don't think that we can forget what's been done prior to what we are now, I would think there's a clue which might be to involve the learner in what's going to happen to him as soon as possible.

Burkhart: I've heard that, like nonlecturing. Don't lecture! I remember, Herbert, that you loved to lecture, and you worked out a system as to what was needed, and you found that lecturing wasn't needed but you still do it once a week.

Kaplan: So you're talking about bringing a student in and letting him talk about how to improve the structure. Well, I'm not talking about that at all. I'm talking about starting off with the premise that the learner is an integral part of what goes on, and therefore, possibly, we get a new structure.

Turner: Yes, that's right. And how do you support it ? One of the things that disturbs me about everything we do in education is the idea of norms. We have a tremendous approach, in a sense, to the whole business of testing, standardization and normality. The way that we approach this is that we take the diversity, the tremendous variability of human behavior, and standardize it, you know ? One of the things that influences me I guess is the total approach to people that comes from Chakovsky's approach to kids. He says that the child, and these are marvelous words really, is armed against thoughts and information that he does not yet need, and they are prematurely offered to him by too hasty adults. The young child uses fantasy as a means of learning and brings this into reality in the exact amount his need demands. Here is another thing he says; that poetry is the natural language of children, and nonsense serves as a handle to the proportion of logic in an illogical world. This next one really hurts. He says that the fetish of practicality is a blight on the experience and literature of childhood.

Let me put this in. That the present belongs to the sober, the cautious, the routine-prone, but the future belongs to those who do not rein in their imagination. I would put the idea in broad general terms. How do you work with people so that you support their particular style, their way of knowing, their way of being relevant, their way of supporting whatever meaning they bring to what they do ?

Burkhart: I think this is excellent. We need this probing because there is a strange irony that I feel under this whole undertaking. There's a group of people who are involved deeply in research and education and in trying to make it more systematic, yet almost everyone here says, "This increased structuring is the only way to help individuals develop." Systematic approaches are thought of as providing more dimensions for freedom. I felt quite as though you all brought something to me when you agreed with Don's suggestions that, if we can just provide a wide enough range of structures so people can learn to act like individuals with other individuals, then we will have accomplished something. In this sense, the people who are concerned with systems are arguing strongly for individuality rather than uniformity. Now I see this as the irony of our time and our place in time. We know we can't help children grow by putting them there and telling them to do what they want. We're going to have to provide something far more systematic, and the same thing appears to be true of teachers.

Turner: This doesn't solve the problem for you as an individual, if you think of the school as a social instrumentality, which represents middle-class values, and also in that sense that our classrooms are teacher-oriented. Personal goals which aren't associated with the school are deferred. You know then that your personal problems are not included. As an individual you have been left out. Now in that context, when I think of the sort of contemporary needs of kids right now, schools are no longer valid. The experience has to be more for now, it also has to have meaning now, it also has to have relevance in terms of now. I suspect that the tremendous hostility that's being expressed on a worldwide basis is the rejecting of the schools as an instrumentality of enculturation. So, therefore, school has to be a meaningful experience now, not in the future, right now! Therefore, you see, the curriculum has to become what happens now, not a structure that we impose.

Jennings: This is the way to disaster. This is the damnable *mea culpa*. I am sorry for the mess which we have made of this world. Excuse me for the middle-class syndromes and everything that it buys. I sat at this meeting exactly twenty-five years ago, and you people are saying exactly the same things that you said the last time, only your pronunciation has slipped a little.

Turner: Oh well, that's my Canadian accent.

Jennings: Whatever is it that education is all about, if not to do something with the society that the education itself is an instrument of? If you don't have the future, you don't have the present, and you know that.

Turner: All right, I agree. I'm not disagreeing.

Jennings: One last thing, please. Footnote: Chakovsky is a lovely man, and he grips me right here. He lives in a gorgeous society where the normatives are explicit, and where the future is absolutely guaranteed.

Turner: Yes, but wouldn't you put him along with Luria, Burgatski, and all these others?

Jennings: I will, I would be very happy to.

Turner: They have great meaning for us.

Jennings: Yes, yes. Of course they do.

Turner: Remember the jeweler who made the setting in which they shine?

Jennings: Ours is a sloppy society.

Turner: Sure it is. Sloppy as hell. It's clumsy.

Jennings: It's the nature of the experimental life, is it not? To be confused?

Turner: No, no. It's more than this.

Jennings: To confront disaster and be willing to live with it?

Turner: Yes, but it happens from day to day, from hour to hour.

Jennings: Well, do you still have a mortgage?

Turner: Oh yes! It's paid off. That's personal, if that's what you mean. The thing that occurs to me though, is that what's important is that schools represent the dominant influence in society.

Jennings: The dominant influence?

Turner: Yes. All-day school can be afforded in an affluent society such as ours. Now if you want to get right down to the business of language, what do you do with kids who come into your school, and their language is incomprehensible, because they come from a culture that is irrelevant to middle-class values? What do you do, impose this language on the kids? It's a foreign language. They don't understand it.

Hite: I think we've been addressing ourselves to two different problems. One is that we don't do a very good job in bringing about change or learning. And the other question is, if we did a good job, would it be worth doing ? And I think Alec is talking about the second.

Turner: Then I say, let's look at these middle-class values. Are these the ones which we really want for the accommodation of individuality ? I don't think in the present context that middle-class values are worthy. I think, you see, if you talk in terms of a metaphor about the ship, it's going to sink.

Jennings: Maybe you'd better pronounce some of those middle-class values, and let's examine them a minute. Because, otherwise, I'm afraid we're going to wind up saying some things that have no relation to values whatsoever. The child is of ultimate concern ? I think it's a referent problem here. It's society that's of ultimate concern, dammit! Without a shape — and shaping society that is being able to articulate what kind of good life is available or tolerable or something — you don't know what you're going to do to or with the child. You've got to have a program. Then you can say to the teacher who is working on these kids, "What are you teaching ?" So often we use mealymouth expressions about meeting the child where he is, and all the rest. We don't say that we as teachers are confronting plastic humanity here and are making it different for good or ill. We are doing this, and what I hear you saying is, "How are you going to make teachers who at least do no harm ?" How are you going to do that ? (Teaching, the only profession without a malpractice clause. Why ?) How are you going to make teachers who first do no harm and then have a sense of direction ? How are you going to make teachers who are open to not only self-examination but also examination by peers ? Who can take not only criticism but also the absolute indictment of failure ? Now teachers don't fail, they just do things differently. They're excused. Supervisors don't fail either. They just happen to look the other way, or don't show up at all. And then we all engage in the *mea culpa*. We have done wrong. Carpenters and plumbers do better. I want to explain something. I have taught the kids you're hinting about. My first teaching experience was in the lower east side of Manhattan, and my second was up in the East Harlem area. I know these kids; I know them with their capacity to achieve bilingualism. And look, a lot of this has come out of experience. I learned late in life that I was a product of what John Goodlad calls a "harsh environment." I had to develop bilingualism, because I grew up on the shores of the Gowanis Canal in Brooklyn, and the teacher talked this middle-class lingo which I learned. Pretty effective stuff, I'm glad they did!

Burkhart: We have arrived at some real dialogue. We have located and come face-to-face with some issues that we cannot now easily avoid. A controversy has arisen which is more than we could have hoped for. Value considerations are involved. The questions strike at the very core of our future. Luckily, because of the issues encountered, we have also had a chance to encounter the vividness of the people involved. I would add, we have had an opportunity to sense the strength and the complexity of their individuality. We cannot now stop here and simply say that was interesting. We must see these issues through the work and purpose of our participants. Fortunately, Dr. Kaplan, who follows next, has chosen for himself the task of making value considerations a part of both the teachers' and the pupils' education. So, the question arises in relation to his purposes: how can we best deal with the problem of the formulation of new values which must exist in a culture which has a commitment to the promotion of individuality? That is, we are constitutionally committed to provide educational freedom in the exploration, formulation and adoption of those values which each person has to consider as a representative of himself.

A Comparison of Two Techniques for Analyzing Classroom Behaviors

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A Comparison of Two Techniques for Analyzing Classroom Behaviors

As the number of instruments available for analyzing classroom behavior grows, it becomes important to learn something about interrelationships among them. It seems worthwhile, therefore, to report the results of a study designed to compare two systems which attempt to achieve similar purposes by rather different means. Since the publication of OScAR 2a, an early instrument designed to measure classroom climate by means of live observation (Medley & Mitzell, 1958), a number of interim versions have been developed representing successive efforts to obtain useful information about other aspects of classroom climate besides the "socio-emotional" dimension defined by Withall (1949), and reflected so effectively by the "Interaction Analysis" technique of Flanders (Flanders & Amidon, 1963). This report represents the results of a study comparing Flanders' records with records obtained on a recent version of OScAR (Medley, Impellitteri & Smith, 1966).

Procedure

The subjects of the study were 70 first-year teachers of junior or senior high school English, mathematics, science, or social studies enrolled in an internship training program for college graduates. During February each teacher was visited by a team of two observers on two different occasions; and during late May or early June each teacher was visited two more times by the same observer team. For 20 minutes on each visit, one member of each team recorded verbal behavior using Flanders' Interaction Analysis Technique (referred to as FIAT), and the other observer recorded the same behavior using the Observation Schedule and Record, Form 4, Verbal (hereinafter referred to as OScAR 4V). Twelve teachers were assigned to each team, making a total of 72, but two teachers resigned during the year, reducing the total to 70. The data of the study, therefore, consist of four pairs of records made in the classrooms of each of 70 teachers, or 280 pairs of records in all.

For those unfamiliar with the two category systems, definitions of categories in the two systems are presented in Tables 2 and 3. The observer using Flanders' system is supposed to write down the number of the category which best describes the kind of verbal behavior during each three-second interval during a visit, a FIAT record, then, consists of a string of numbers between one and ten. The task of the OScAR coder is to tally each teacher utterance (or pupil statement) in the proper cell on the special recording form included in the handout as Table 4.

The basic device used in interpreting FIAT records is a matrix of 100 cells, each containing a number representing the frequency of occurrence of a different sequence of two of the ten types of verbal behavior. A record beginning with the following sequence: 1, 2, 3, 4, 5, 6 would yield tallies in the following cells: 12, 23, 34, 45, 56, and so on. Because of the experimental dependence between successive cells — 12 and 23, for instance, must share the number two — this procedure was not used in the present study. Instead, from the series 1, 2, 3, 4, 5, 6 only three tallies were taken — 12, 34, and 56. This would yield a matrix for each record with only half the number of tallies yielded by the normal procedure; but cell frequencies would be more nearly independent of each other.

In normal applications of FIAT, cell frequencies are converted to percents so that the total number of tallies in any matrix is 100. This procedure was not used in the present study; all scores were based on actual rather than relative cell frequencies.

Past users of FIAT have developed a number of scores called "measures," based on pooling frequencies in certain cells. Some of these measures are based on ratios of two such frequencies. In this study linear contrasts were used instead of ratios — that is, instead of a ratio of *a* to *b* the difference *a-b* was used.

These three departures from normal scoring procedures should be borne in mind in attempts to relate findings of this study to other research with FIAT.

OScAR records were scored by combining the frequencies in the 42 cells of the recording form (Table 4) into 42 linear combinations which are all nominally orthogonal to each other. Some of the 42 scores are subtotals across groups of cells, but most of them are contrasts between groups of cells; for convenience, all of them will be called "contrasts."

Stability coefficients of the 44 FIAT measures and 42 OScAR contrasts were estimated by analysis of variance. Six FIAT measures and five OScAR contrasts had coefficients not significantly different from zero and were discarded. The remaining 75 scores were intercorrelated across all 280 records, except that between-teams variation and covariation (estimated with six degrees of freedom) was removed to prevent observer biases from distorting the correlation estimates.

It should be noted that correlations between scores on the same instrument were based on observations both made by the same observer, but that correlations across instruments were based on observations made by different observers.

Because of the practical impossibility of making sense of a 75 x 75 correlation matrix by any kind of inspection, the first 10 principal components of the matrix were extracted, and rotated to orthogonal simple structure using the varimax criterion. Interpretation was based on loadings of .50 or higher only, and will be reported here in terms of the basic categories rather than of either measures or contrasts.

Results

The ten rotated factors are listed and described in Table 1. Of the ten, five showed some loadings of .50 or better on both instruments, and may be said to represent overlap between them. These five factors, I, II, V, VI, and VIII, accounted for 33% of the variance in the matrix. Three factors, III, IX, and X, were unique to OScAR and accounted for another 15% of the variance. The remaining two factors, IV and VII, which accounted for 12% of the variance, were unique to FIAT. Thus, although the two techniques yield descriptions of teacher behavior which have much in common, each one also seems to get at something not readily accessible through the other system.

Each of the ten factors is described on the handout in terms of suggested factor keys which might be used to obtain scores reflecting the dimension represented by that factor. For example, from Table 1 it appears that a Factor I score could be obtained from an OScAR record by subtracting the number of Substantive Interchanges from the sum of three times the number of Continuing Informing Statements plus the number of Initiating Informing Statements tallied on the record. This factor could also be scored on FIAT by subtracting the total number of 8's (pupil responses) from the total number of 55's (steady state lecturing behaviors) on the record. This procedure would not, of course, yield exact factor scores, but should approximate them fairly well. More important, inspection of the composition of these keys is a good way to get an idea as to what behaviors enter into high or low scores on each factor.

In the case of Factor I, it appears that a high score indicates a teacher who tends not only to talk a lot, but to go on talking for a relatively long time each time he speaks, and who also tends to interact with students less than the average teacher does. In short, he lectures. Hence the factor has been tentatively named *Lecturing Behaviors*.

Factor II is not as easy to identify. On FIAT it is not well defined at all; inspection of the key only suggests a teacher who rejects pupil responses instead of accepting them. The key for OScAR is a complex one, reflecting the fact that the factor had substantial loadings on 11 contrasts. Inspection of the Entry totals indicates that the high scoring teacher will be one who asks more Elaborating and Divergent Questions, and fewer Convergent ones than the average teacher. Inspection of the weights in more details also reveals that instead of evaluating a pupil response, this teacher tends to react by asking another question which requires a pupil to elaborate on or perhaps to correct the first answer elicited. The low scoring teacher, on the other hand, tends to ask simple convergent questions and either to evaluate pupil answers as correct or merely to acknowledge them without giving any feedback information. In addition to being less likely to show any enthusiasm for pupil responses, the low scoring teacher is also less likely to praise a pupil for making a correct answer than he is to criticize him for making an incorrect one. Since this factor seems mainly to contrast teachers who prefer two opposite questioning styles — one stressing thought and more challenging, the other stressing factual knowledge and less challenging—the factor has been named *Question Type.*

Factor III, which does not appear on FIAT, has been named *Question Difficulty.* Note that scores on it are unaffected by the kind of question asked (as indicated by the zero totals on the right); this distinguishes it clearly from the dimension reflected by Factor II. Factor III seems mainly to indicate how the teacher evaluates pupil answers to whatever questions come up. The teacher scoring high on this dimension Approves pupil answers (judges them to be correct and says so to the pupils, without praise) relatively more often than he either praises them or Neutrally Rejects them—i. e., judges them to be incorrect. The last thing this teacher would do would be merely to Acknowledge a pupil's answer without indicating whether it is correct or not — particularly if the pupil is answering a Convergent question. It may be said to indicate question difficulty as reflected in the teacher's evaluations of pupils' answers.

Factor IV appears only on FIAT, and loads on a number of measures all based on category 9, Pupil Initiates. It has, therefore, been named *Pupil Initiations.* This dimension seems to be defined entirely in terms of student behavior, and reflects how often a pupil speaks "because he wants to."

Factor V loads mainly on various FIAT measures based on category 7; it has, therefore, been named *Criticizing Behavior.* An inspection of the OScAR key for this factor indicates that it is based on Rebukes, but that Initiating Rebukes contribute much more to this dimension than Continuing Rebukes do. This suggests that the dimension does not reflect any deep hostility on the part of the teacher. Since it does not load on Criticizing Exits from Interchanges, Rebuking Behavior would be a better name than Criticizing Behavior.

Factor VI is the only factor defined by a single OScAR category — Continuing Pupil Statements. Its meaning is confirmed by the fact that on a FIAT record it contrasts sustained student communication — 8-9 pairs — with the center of the Content Cross — 4-5 pairs. Clearly this factor identifies *Listening Behavior:* to score high on it a teacher must do one thing; he must let pupils talk for a while without interruption.

Factor VII is the other factor found only on FIAT; since it is based on those cells in the matrix which contain only 1's, 2's, and 3's, it has been given the name *Extended Accepting Behaviors,* because the teacher high on the factor tends to go an accepting and praising students at length.

Factor VIII, *Question Source,* sounds as though it should correlate highly with Factor IV, called *Pupil Initiations;* but it does not. From the OScAR key it is clear that a teacher high on this factor elicits a number of Pupil-Initiated Substantive Interchanges which is high relative to the number of Teacher-Initiated ones; it is also apparent that he encourages pupils by praising them when they are right and neutrally rejecting rather than criticizing them when they are wrong. He also seems to be much more likely to acknowledge a question than to let it go unacknowledged. Only one cell in the FIAT matrix loaded on this factor—59. Perhaps this is a clue to the way in which Factor IV is different from this factor. Only those 9's which follow a 5 reflect the behavior pattern measured by Factor VIII; Factor IV seems to reflect all pupil initiations, but Factor VIII seems to reflect only those having to do with the substantive content of the lesson.

Factors IX and X are relatively minor factors recognizable only in OScAR. Factor IX, *Permissive Behavior,* identifies a teacher who (1) offers pupils a choice of procedures relatively often, and (2) seldom refuses permission when asked for it. *Managing Behavior* consists mainly of statements which either tell pupils what do do (Directing) or discuss what they are doing, have done, or will do (Describing). The positive weight on Initiating Considering Statements probably reflects a tendency of a teacher who is discussing what a class might do to say something now and then about their feelings or desires. The negative weight on Continuing Considering Statements probably serves to filter out any genuine positive affect such utterances might contain.

TABLE 1

Summary of Results of Joint Factor Analysis of OScAR 4V and FIAT

<table>
<tr><th></th><th>Percent of Variance</th><th>OScAR Contrast</th><th>FIAT Measure</th></tr>
<tr><td>I. Lecturing</td><td>9</td><td>
<table>
<tr><th>Informing Init.</th><th>Informing Cont.</th><th>Substantive Interchanges</th><th>Total</th></tr>
<tr><td>+1</td><td>+3</td><td>—1</td><td>+3</td></tr>
</table>
(Highest loading .75)</td><td>(55) vs. (8)
(Highest loading .92)</td></tr>
<tr><td>II. Question Type</td><td>9</td><td>
<table>
<tr><th></th><th>Sup.</th><th>App.</th><th>Acc.</th><th>NEv.</th><th>NR.</th><th>CR.</th><th>Total</th></tr>
<tr><td>CVG</td><td>+ 3</td><td>—15</td><td>—16</td><td>+ 4</td><td>— 5</td><td>— 7</td><td>—36</td></tr>
<tr><td>PIn</td><td>+ 2</td><td>— 2</td><td>— 4</td><td>+ 4</td><td>+ 2</td><td>— 2</td><td>0</td></tr>
<tr><td>DVG</td><td>— 1</td><td>+ 5</td><td>0</td><td>+ 4</td><td>+ 7</td><td>— 3</td><td>+12</td></tr>
<tr><td>ELB</td><td>+ 4</td><td>+ 4</td><td>+ 4</td><td>+ 4</td><td>+ 4</td><td>+ 4</td><td>+24</td></tr>
<tr><td>Total</td><td>+ 8</td><td>— 8</td><td>—16</td><td>+16</td><td>+ 8</td><td>— 8</td><td>0</td></tr>
</table>
(Highest loading .81)</td><td>(86 + 87) vs. (81 + 83 + 34)
(Highest loading .66)</td></tr>
<tr><td>III. Question Difficulty</td><td>9</td><td>
<table>
<tr><th></th><th>Sup.</th><th>App.</th><th>Acc.</th><th>NEv.</th><th>NR.</th><th>CR.</th><th>Total</th></tr>
<tr><td>CVG</td><td>— 9</td><td>+ 95</td><td>—54</td><td>— 6</td><td>— 9</td><td>—17</td><td>0</td></tr>
<tr><td>PIn</td><td>— 6</td><td>+ 18</td><td>—24</td><td>0</td><td>— 6</td><td>+18</td><td>0</td></tr>
<tr><td>DVG</td><td>+ 3</td><td>+ 11</td><td>— 6</td><td>— 6</td><td>+ 3</td><td>— 5</td><td>0</td></tr>
<tr><td>ELB</td><td>—12</td><td>+ 44</td><td>—12</td><td>—12</td><td>—12</td><td>—20</td><td>0</td></tr>
<tr><td>Total</td><td>—24</td><td>+168</td><td>—96</td><td>0</td><td>—24</td><td>—24</td><td>0</td></tr>
</table>
(Highest loading .87)</td><td>(No high loading)</td></tr>
<tr><td>IV. Pupil Initiations</td><td>7</td><td>(No high loading)</td><td>(Highest loading .84)
Total 9</td></tr>
</table>

Table 1
(continued)

<table>
<tr><th></th><th>Percent of Variance</th><th>OScAR Contrast</th><th>FIAT Measure</th></tr>
<tr><td>V. Criticizing</td><td>6</td><td>
<table>
<tr><th colspan="2">Rebuking</th><th>Total</th></tr>
<tr><td>Init.</td><td>Cont.</td><td></td></tr>
<tr><td>+3</td><td>+1</td><td>+4</td></tr>
</table>
(Highest loading .68)</td><td>Total 7
(Highest loading .89)</td></tr>
<tr><td>VI. Listening Behavior</td><td>5</td><td>Continuing Pupil Statements
(Highest loading .85)</td><td>(88 +89 +98 +99) —
(44 +45 +54 +55)
(Highest loading .56)</td></tr>
<tr><td>VII. Indirect Teacher Talk</td><td>5</td><td>(No high loading)</td><td>(Highest loading .86)
(11 +12 +13
+21 +22 +23
+31 +32 +33)</td></tr>
<tr><td>VIII. Question Source</td><td>4</td><td>
<table>
<tr><th></th><th>Sup.</th><th>App.</th><th>Acc.</th><th>NEv.</th><th>NR.</th><th>CR.</th><th>Total</th></tr>
<tr><td>PIn</td><td>+1</td><td>0</td><td>+4</td><td>0</td><td>+1</td><td>0</td><td>+6</td></tr>
<tr><td>TIn</td><td>—1</td><td>0</td><td>—4</td><td>0</td><td>—1</td><td>0</td><td>—6</td></tr>
<tr><td>Total</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr>
</table>
(Highest loading .66)</td><td>(59)
(Highest loading .60)</td></tr>
<tr><td>IX. Permissive Behavior</td><td>3</td><td>
<table>
<tr><th colspan="5">Non-Substantive Question</th></tr>
<tr><th colspan="2">Teacher</th><th colspan="2">Pupil</th><th></th></tr>
<tr><th>Pos.</th><th>Neg.</th><th>Pos.</th><th>Neg.</th><th>Total</th></tr>
<tr><td>+2</td><td>0</td><td>0</td><td>—2</td><td>0</td></tr>
</table>
(Highest loading .84)</td><td>(No high loading)</td></tr>
<tr><td>X. Managing Behavior</td><td>3</td><td>
<table>
<tr><th></th><th>DSC.</th><th>DRC.</th><th>CNS.</th><th>Total</th></tr>
<tr><td>Int.</td><td>+2</td><td>+2</td><td>+1</td><td>+5</td></tr>
<tr><td>Cont.</td><td>+2</td><td>+2</td><td>—1</td><td>+3</td></tr>
<tr><td>Total</td><td>+4</td><td>+4</td><td>0</td><td>+8</td></tr>
</table>
(Highest loading .65)</td><td>(No high loading)</td></tr>
</table>

Discussion

As was pointed out earlier, so far as measurement goes, the two systems appear to be rather similar, although each one gives some interesting information not provided by the other. As might have been anticipated, OScAR keys, based as they are on twice as many basic categories as are used on FIAT, provide much clearer indications of the kinds of behavior which enter into each factor than FIAT keys do. It would seem that in feedback applications this might prove a useful feature, by indicating more clearly how a teacher might proceed if he wished to change his score on that scale. The most extreme example is, perhaps, provided by Factor VIII which shows up on FIAT as a high frequency in cell 59 (teacher lectures, pupil initiates). A low score here would indicate that pupils do not voluntarily contribute to subject matter very often, but would give no indication of how a teacher could get them to contribute oftener. The corresponding OScAR key, on the other hand, indicates how the teacher should react to pupils' questions and to pupils' answers to teacher questions in order to score high on this dimension.

One last word. In reacting to these results one should bear in mind that they are based on data gathered in the classrooms of a rather homogenous group of teachers, all of whom were beginners and probably constricted in their behavior for this reason. A quite different (and stronger) set of factors might be found in a different group of teachers.

TABLE 2

Summary of Categories of Verbal Behavior on OScAR 4V

I. STATEMENTS

- A. *Teacher Statements* — utterances which neither respond to nor solicit a response from a pupil—are classified as follows:
  1. AFFECTIVE. A statement revealing sensitivity to pupil feelings is classified as CONSIDERING. A statement criticizing pupil conduct is classified as REBUKING.
  2. SUBSTANTIVE. A statement containing no affect but referring directly to content to be learned by pupils is classified as INFORMING if it conveys a fact, generalization, or the like, or PROBLEM STRUCTURING if it sets up a question or issue to be solved.
  3. PROCEDURAL. A statement which contains neither affect nor substance is classified as DIRECTIVE if it contains a command or instruction with the force of a command. A statement which does not clearly fall into one of the above categories is classified as DESCRIBING.
- B. *Pupil Statements* — utterances by pupils addressed to other pupils are classified as PUPIL STATEMENTS.
- C. *Sequence*. If a teacher makes two or more successive statements which may be classified in the same category, all except the first are classified as CONTINUING. The first statement in a series of the same kind is classified as INITIATING.

II. INTERCHANGES

An interchange is an episode in which a pupil says something to the teacher and the teacher reacts.

- A. *Substantive Interchanges* are those in which the pupil's utterance refers to content to be learned. Such interchanges contain two parts: entry and exit.
  1. *Entries*. A substantive interchange begins with one of four types of entries:
     - a. PUPIL INITIATED. The pupil addresses a statement or question to the teacher.
     - b. ELABORATING. The teacher addresses a question to a pupil which refers directly to a previous pupil comment.

TABLE 2 (Continued)

c. DIVERGENT. The teacher addresses a question to a pupil which does not refer directly to a previous pupil comment, and which offers him a choice of two or more acceptable or "correct" answers.

d. CONVERGENT. The teacher addresses a question to a pupil which does not refer directly to a previous pupil comment and to which there is only one acceptable answer.

2. *Exits From Completed Substantive Interchanges.* After the pupil has asked his question or made his answer, the teacher disposes of the answer in one of six ways, called *Exits.* Exits are first classified according to the information they contain about the correctness or acceptability of what the pupil has said.

   If the teacher clearly indicates that what the pupil has said is correct or acceptable, the interchange is classified as SUPPORTED if praise or enthusiasm is shown, as APPROVED if praise is not given.

   If the teacher clearly indicates that what the pupil has said is incorrect or unacceptable, the interchange is classified as CRITICIZED if disapproval of either the pupil or what he has said is expressed, or as NEUTRALLY REJECTED if no disapproval is expressed.

   If the teacher makes some response to what the pupil says which does not clearly indicate whether it is correct (acceptable) or incorrect (unacceptable), the interchange is classified as ACCEPTED; if the teacher makes no response, it is classified as NOT EVALUATED.

B. *Nonsubstantive Interchanges* are those in which the pupil's contribution does not refer to content to be learned.

1. TEACHER - INITIATED nonsubstantive interchanges are classified as POSITIVE or NEGATIVE according to the affective content of the teacher's question.
2. PUPIL-INITIATED nonsubstantive interchanges are classified as POSITIVE if the teacher supports, approves, or accepts the pupil's suggestion, and as NEGATIVE if he criticizes, neutrally rejects or ignores it.

TABLE 3

Summary of Categories for Interaction Analysis

Teacher Talk	Indirect Influence	1.* Accepts Feeling: accepts and clarifies the feeling tone of the students in a non-threatening manner. Feelings may be positive or negative. Predicting or recalling feelings are included. 2.* Praises or Encourages: praises or encourages student action or behavior. Jokes that release tension, not at the expense of another individual, nodding head or saying "um hm?" or "go on" are included. 3.* Accepts or Uses Ideas of Student: clarifying, building, or developing ideas or suggestions by a student. As teacher brings more of his ideas into play, shift to category five. 4.* Asks Questions: asking a question about content or procedure with the intent that a student answer.
	Direct Influence	5.* Lecturing: giving facts or opinions about content or procedure; expressing his own ideas, asking rhetorical questions. 6.* Giving Directions: directions, commands, or orders to which a student is expected to comply. 7.* Criticizing or Justifying Authority: statements intended to change student behavior from non-acceptable to acceptable pattern; bawling someone out; stating why the teacher is doing what he is doing; extreme self-reference.
	Student Talk	8.* Student Talk—Response: talk by students in response to teacher. Teacher initiates the contact or solicits student statement. 9.* Student Talk—Initiation: talk by students which they initiate. If "calling on" student is only to indicate who may talk next, observer must decide whether student wanted to talk. If he did, use this category.
		10.* Silence or Confusion: pauses, short periods of silence and periods of confusion in which communication cannot be understood by the observer.

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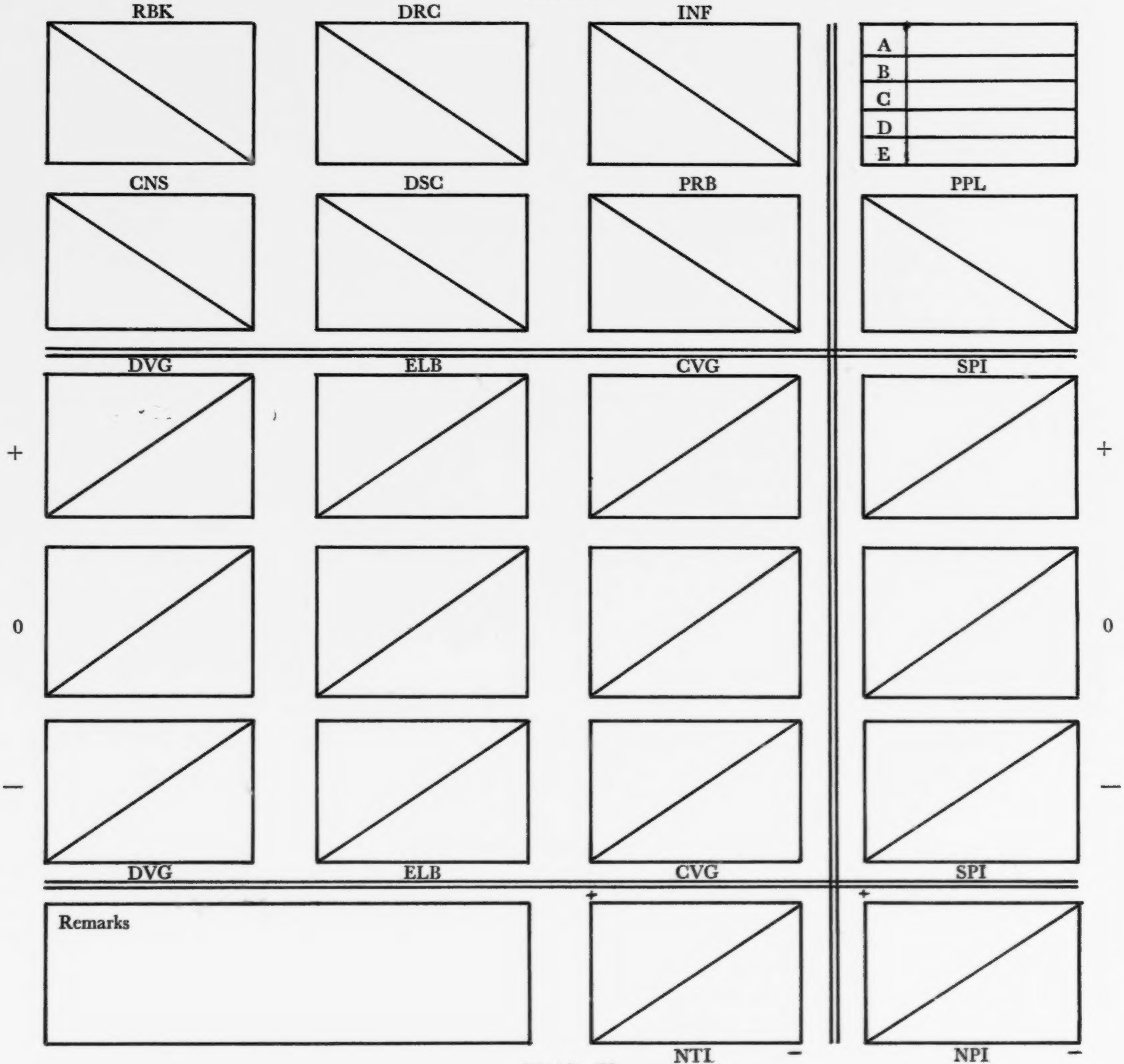
*No scale is implied by these numbers.

Adapted from:

Flanders, N. A. *Teacher influence, pupil attitudes, and achievement.* Minneapolis: University of Minnesota (U. S. Office of Education Cooperative Research Project No. 397), 1960. (Mimeographed)

TABLE 4


RBK
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OScAR 4V

the blind leading the blind

leonard kaplan

4

The Blind Leading the Blind

"I found that in any dialogue between the student teacher and myself, the equation for what good teaching was, was my own equation. It was only the thing that I knew. Good teaching became good-teaching-as-I-saw-it or as I remember it. I saw myself falling deeper and deeper into the pit, which is the definition of good teaching that many of us use. I'm afraid that although we may never say so, it is, 'A good teacher is a teacher who teaches like me.' This is how I got started. This is why I've talked about the blind leading the blind; I was referring to myself as the supervisor of someone else who was also relatively blind. This is why I became interested in thinking about something more systematic, a little less subjective and a little more objective."

LEONARD KAPLAN

ISSUES

One: Who is responsible for deciding whether the objectives that the teachers are setting for themselves are important?

Two: Are we too concerned about the process and not enough about the product?

The Blind Leading the Blind

LEONARD KAPLAN

Introduction

Burkhart: I suppose that in the last 8 or 10 years more of us have become conscious of the major gap in education is the affective one concerning teacher and pupils' values, their feelings, and preferences. These responses, some believe, ought to become more of a part of our every-day classroom activities. Of course, this concern was given great impetus by Krathwohl's *Taxonomy,* but this taxonomy has one problem. It was more a statement of what we should do rather than a method of getting there. Lenny Kaplan has tried to find a way to get there. Of course, if the pupil is to have this opportunity, the person who has to get there is the teacher, and he's developed forty-five specific behaviors that constitute something like a hierarchy, or at least something that you can look at and think about, and the teacher can look at and think about in terms of his affective behavior. After his presentation there are many questions we want to get at this morning relating to affective behavior and the Pandora's Box of values in education which it has opened up for us. I know that Lenny can help further the discussion of this. Now his system lends itself to the study of affective behavior in the classroom, and these behaviors are recorded and used as a means of providing a theory of learning applicable for classroom inservice and supervisory use. In this connection, I feel somewhat in suspense because, Lenny, you said that you would like to address yourself to the "blind leading the blind." Is that right? Blindness is, "Good teachers teach like me."

Kaplan: Well, Bob, I initially got involved in this way. Four years ago I had the good fortune of becoming a college supervisor of student teaching in elementary education. It wasn't too long before I felt quite inadequate for the job. I think the assumption was made that I was a successful classroom teacher — no one has ever told me what "successful" means, but I guess it means that I had never been dismissed from any position — and so I could supervise elementary undergraduates in their student teaching. I said that I found myself to be quite inadequate, and the reason for that was that I found that in any dialogue between the student teacher and myself, the equation for what good teaching was, was my own equation. It was only the thing that I knew. Good teaching became good-teaching-as-I-saw-it or as I remembered it. I saw myself falling deeper and deeper into the pit, which is the definition of good teaching that many of us use. I'm afraid that although we may never say so, it is, "A good teacher is a teacher who teaches like me."

I felt that this was inadequate because there wasn't enough there for the student. The inference was, "If you don't see like I see, you aren't a good teacher. You can't do it that way, because my frame of reference says that you can't. I know what good teaching is because I was out there doing it." I found that this was just as inadequate as giving an essay exam, where you read the paper but decide about it from your own frame of reference rather than the author's. "Do I like it, or don't I like it?" In effect, you measure how much you love the student, and then you come up with a grade.

This is how I got started. This is why I've talked about the blind leading the blind; I was referring to myself as the supervisor of someone else who was also relatively blind. This is why I became interested in thinking about something more systematic, a little less subjective and a little more objective. Consequently, I became extremely interested in the taxonomies of educational objectives, particularly Dr. Krathwohl's, because I felt that this kind of behavior was really instrumental for improving what should go on in the classroom or any other learning situation. It provided a key to what I wanted to see kids doing in a school.

Learning to Watch Turtles "Turtle"

A friend of mine in Florida talks about teaching and says that if you want to find out what a turtle does, you go out and watch him turtle, and if you want to find out what a doctor does, you go out and watch him doctor, and if you want to find out what a lawyer does, you watch him law. So the only way to find out what teachers do is to go out and watch them teach. Right now, this is what many of us at the University of Florida are doing. We are going out to watch people teach and to get an idea of what they do and how they do it. But we make no pretense of saying that it is good, bad, or indifferent orientation to and for teachers.

We make the assumption, and I haven't heard it too many times, that teachers aren't bad. We don't go from the frame of reference that teachers are terrible and must know what we have learned. We assume institutions who prepare teachers are producing some fairly decent people. I think that we have evidence in our public schools all over the country to support this. Before we started working with teachers, we thought they wouldn't want to look at themselves and would think of this as quite threatening to them. Our initial evidence contradicts this, and we're very pleased to comment on that, because it suggests to us that teachers are concerned about what they do in the classroom; they're concerned about how to do a better job. They want to know how to do a better job.

Purpose as Implementation

The instrument we've been using describes behavior. It attempts to look at the Krathwohl taxonomy and break it down, as you mentioned, into very specific behaviors that we can use. But I want to emphasize that this is not done for the purposes of evaluation. One of my hang ups concerns an operational definition of "good teaching" which is essential to making evaluative judgments. I've never been able to find out what "good teaching" means. I don't know whether I would recognize it if I saw it, even though I know what I like and what I don't like. So I certainly can't make judgments of success in teaching. We attempt with this taxonomy to permit teachers (without making "good" or "bad" judgments) to examine what they are doing in their own somewhat structured way, by using video tape and this instrument helps them identify more precisely what they want to get across to kids. It enables them to know whether their objectives were met by having them say to themselves, "How did I do? Did I meet my objective? Did I meet what I wanted to get across to the kids?" This is not a discussion of, "Did I do a 'good' job, or did I do a 'bad' job?" If they care to make that evaluation for themselves, that's fine, but we don't see that as our purpose at all. Our purposes are not judgmental.

Formulation of the Instrument

This September, as I was thinking of how to operationalize Krathwohl's *Taxonomy,* I had to sit for hours plugging away at behavioral objectives. Anyone who's done that knows what a treat it is to define a behavior operationally. By the time I had finished stating my first objective and had some friends look at it, I decided maybe I had better look at it a second time. I looked at it again, and I was convinced that this was the instrument that would do it all, that would conquer all problems of education. I've probably changed it forty times since. What this does is to add another piece of knowledge to the education pie, and that's all it hopes to do.

Joint Work With Others

Some other pieces are being developed by five or six other faculty who are looking at observational systems. It's a rather intriguing thing, to me anyway, since it's one of the first times that I've worked with people who are willing to say that someone else has a contribution, too, and that possibly what I have needs help. I find this rather refreshing. We've all worked together with the idea that possibly this instrument and other instruments can all contribute to systematic observation. Teachers, also, by being aware of our observation purposes, possibly can help. The only premise we work on is observational.

Initial Field Test

After this thing was developed in the form it is now, we were concerned with whether or not we could train people to use it. We were looking for observer reliability. The data right now is in the computer, but it looks like we have pretty high observational reliability. I spent about four hours with seven of my undergraduates. These are people who had completed student teaching and were now in their last quarter in the elementary program. They spent a Saturday in my home looking at this instrument, talking about what it means.

Along with the instrument there is a glossary that we take with us to help us observe. We've given that to teachers also, and we've gone over it and discussed it with them. There are many points in it that are vague, and we have to refine some of the language.

Locale of Field Test

To test the instrument, seven of us visited a community in northern Florida, which is a very small school district and not so affluent as some others. We visited a building which was predominately Negro in population. Before going there, I had met with the teachers, the superintendent, and the principal of this building to discuss the instrument. We talked about what this thing was supposed to do, what it was supposed to look at, and hopefully what help it would provide the superintendent who, before giving his blessings, asked, "When you do this, or if we do this, can we use it to spot who are our good teachers and who are our bad?" My comment to him as my comment has been to you, was, "If you want to, you can, but I don't know how, because that's not the function of it all. It's meant to describe."

With this in mind, they permitted us to come out and visit sixteen classrooms ranging from kindergarten through senior high school. We were given no stipulation as to what classrooms to visit. They didn't pick out teachers for us or say, "Here are our best teachers," but rather they said, "Just go where you want to go." We divided ourselves into teams. We went out on the same day for three successive weeks. We broke up into the same teams to observe each classroom, so we had several observations of each class.

Some Effects of Observations on Teachers and Pupils

During these observations, we came up with some interesting suppositions about our effect on the teachers and pupils. One was that the teachers didn't change much from day to day, but the kids had one heck of a good time as a result of our visits. In our previous discussions with the teachers, we had talked about the fact that kids should be able to verbalize, to talk about how they feel and what they think about things that are important personally to them. We also pointed out a piece of research which states, "A good teacher has opinions and is not afraid to express those opinions so long as they are not stated in the frame of, 'This is the only opinion that we will permit.' A teacher is an individual who has feelings like everybody else and can express them in the classroom." This was the type of atmosphere (I guess they knew that we were looking for it), that happened in the classroom when we observed and the kids were having a real good time. They were saying what was on their minds. Some of the teachers told me afterwards that they had heard children speak for the first time, other than just recite an answer. They were verbalizing. They even argued. They were contradicting one another. I found one of the refreshing aspects of this to be that teachers were disagreeing with children, not criticizing, but disagreeing. They'd say, "Well, I can't buy that point of view." The children did not feel chastized by this. They didn't feel threatened. They didn't say, "Gee, the teacher said something. I'll have to go along with that frame of reference, because that is how we *play this game of school.* It was a person who disagreed, and they were willing to buy that as a disagreement. I found this to be pretty refreshing.

Discussion of the Instrument

Let me back up and go over this instrument with you, and then tell you, or explain to you, where we have gotten with it right now. Then

I would rather not spend time in talking, but in dialogue, in reacting back and forth and in giving you many of my biases (which we think is okay because we can chart that), and hopefully in making this a demonstration training session. It might be helpful for you and for me, because we're still at the initial stages of this. The instrument is divided into three parts. The first is our directions as to how this thing works. (Ed. note: see "The Development of the Florida Taxonomy of Affective Behavior in the Classroom" by L. Kaplan, at the conclusion of this chapter.) This was worked out with the help of a colleague, who used something very similar to this on taxonomy of cognitive behavior developed from Bloom's *Taxonomy*. It probably appears more complicated than it really is, but the directions work. Use of the instrument is based on Medley's self-sign system. You just mark a sign down when you see something happen. This instrument is not concerned with making a count of how many times something happens, just whether or not it occurs at all.

There are five observational periods, and the observer is instructed to mark each behavior separately for each observation period. The next page of the instrument represents the lower levels of the taxonomy, and each observational period is broken in halves, one for the teacher and one for the pupil. For example, if we saw evidence that the teacher was listening to a pupil, we marked it. Or, if we saw some evidence that a child was listening to the teacher or to another pupil, we marked that. You saw either the teacher do this or the child do this. Nothing more. We found that this caused little, if any, problem for the observers. They could do this easily. In talking with people who are far more sophisticated with this sort observing than I, they suggested that we work in seven-minute observational periods. That is, look for two minutes and mark for five minutes. Initially, we did this. We found that in two minutes you can see many types of behaviors, if you've been trained to be tuned-in for these kinds of behaviors. As we became a little more sophisticated in the observational process, we found that we could look and mark at the same time, and that it really didn't detract from what was happening in the classroom. So, this is where we are at the moment.

Feedback to the Teachers

At the end of thirty-five minutes, or five observational periods, we totaled up the marks. We indicated this to the teacher. We let them look at the results, and pointed out, "In the thirty-five minutes 'X' happened during three observational periods. It may have happened more than three times, but only within three observational periods. Is that all right with you?" Some say, "Gee, I think that's pretty good." Some say, "I wish that I had talked more." We let them make those kinds of judgments, because they knew what they were trying to do with kids. We didn't, and we let them make their own evaluations. We followed this procedure throughout.

Hierarchial Distribution of Teacher-Pupil Behavior

There is, as you indicated, a hierarchy. The instructions to the observers were, "If you clearly see it, mark it. If you're not sure, if it's hazy, don't mark it." We found that most of the things we thought we saw were at the lower levels of the taxonomy. They're rather obvious types of things. They are things that most of us do every day with kids. This does not necessarily mean that these things are poor or that it's disastrous if you have preponderance of marks over here. Not at all.

The higher levels, *we* found not as easy, not as prevalent. By talking to teachers about this — "Why do you think that we're not getting as much data over here as we did over there?" — we found they were quite willing to say, "We don't do much of this. We don't really get into these kinds of things. Most of the things we're looking for are informational feedback. Sometimes we don't go beyond the identification of 'What is that?' and the child says, 'That's Brazil'." After that the teacher gives some sort of verbal tick, "That's good," which means absolutely nothing. We used to think that it meant reinforcement, but we found out that it's just a verbalization, which is used because somewhere along the way someone said, "You should reinforce the learner with something." Thus, we found teachers saying, "Good," "Ah ha," "Wonderful," "Excellent," and it meant absolutely nothing. We found that as observers, some of the things we were looking for were obvious. When someone comes out and says, "Well, here's what I think about this," well, that clearly expresses a value. But once we got beyond the point of the "Preference for a Value," down to the 4.0 and beyond, we found these judgments to be rather difficult, because we didn't get to know the teacher well enough to make such judgments. We felt that before we could make any comments or any markings along these lines, we would really have to know the teacher well enough to know if this was a consistent mode of behavior. You can't make a judgment like that if you've seen a teacher one, two or three times, so we didn't get many up there. In some of the things that we have lined up to do this coming year, we think that we are going to be able to get that kind of data. Well, that's the instrument.

Next Steps in the Project

I'm rather excited about our next project, because it's going to provide a mountainful of work. We're going to be using this instrument in six or seven communities throughout the United States, which have become involved in the Follow Through program sponsored by the federal government, and our college is one of the institutions selected to work with teachers of first grade. We will be using this and other instruments, and we'll be getting these instruments back monthly from numbers of classes. I think we're going to have far more data at the end of the time and then we should be able to make more sophisticated analysis of what we're doing, how it's happening and whether it's worth anything. Because of this multicommunity project, we felt the necessity to make some films. We had quite a bit of video-tape available in our library and have spent hours and hours reviewing them. We have some of our doctoral people who are involved in this, and, thankfully, who are teaching me the system. Together we've looked at video tapes of teachers and kids and the kind of things that they do to "turtle." We found that for affective behavior we couldn't use any of the film that we had.

Burkhart: This is sort of like your review of literature, isn't it? It is sort of like Don's findings, only you are concerned with visual material.

Our First Affective Teacher-Training Tape

We found that much of what we were seeing was the teacher in front of the room, usually in the middle, going back and forth with kids. There was not much in inquiry, Bob, but in looking for information, asking informative types of questions: "What happened when?" It doesn't tell us much affectively. We went out with our television camera and my Hollywood shirt and decided to make a movie. We went into a school in Gainesville which is a completely integrated school. We went to a kindergarten teacher who in our judgment, which is purely subjective, was good. Our equation was that she was very pleasant, we thought pretty, willing, and that was the first criteria.

Jennings: It always is.

The principal was extremely willing to go along with this, and we made twenty-six minutes of great tape. (It took us five and one-half hours to get that twenty-six minutes.) The purpose of making the tape was to help us explain the instrument at meetings such as this. But, more particularly, we wanted to be able to take with us, to indicate to the teachers in these communities, some ideas of what affective behavior looks like. "Do you think that this is affective behavior?" is the kind of question we will ask. What do you think is happening? What kinds of things do you think are going on? It's training tape. The film is broken into two pieces. The kids for the first part of the film, or for about twenty minutes or so, are in an art lesson, and they're making black magic pictures. It's really lovely. I mean, the kids are up to here in black paint. The teacher is up to here in black paint. You can really talk about affective verbalization when the teacher says to the student, "What is that?" and the child with no hesitation says, "It's a black mess," and he's delighted with it, and the teacher says, "It looks like a mess to me too." There's no threat there. Everybody is happy. Well, the last five minutes are a story. The teacher is reading a story about "What is an enemy?" to these kindergarten kids. Let me make a couple of observations.

When they began discussing the story, they were developing a definition of an enemy. "What do you think an enemy is?" One child says, "It's someone that I don't like." Another one says, "It's girls." The Filipino child said, "It's the North Vietnamese," and they had a real little dialogue about why the people in North Vietnam might be your enemy. I think that this thing is rather intriguing. We want to make more of these things because I don't think this is enough.

Summary

I'd like to re-emphasize a couple of points and then throw the discussion to the group. One, our instrument does not evaluate; it just describes. Two, the purpose is to assist teachers to examine what they do through their own objectives, not ours. We're pleased with what we have so far, this is the Florida Taxonomy of Affective Behavior, Number One. I suppose before we get through with this, we will have the Florida Taxonomy of Affective Behavior, Number Forty-seven or something. As we go through this, we see the need to become more sophisticated, to rework some of our behaviors, to cut out behaviors that are irrelevant, and to add things that we haven't seen. And again, with no pretense, it's not going to cure all ills. It's just another piece of information that we think is helpful, that teachers can use with a minimal amount of threat. We're hoping that it adds more objectivity to observations of student teachers, because we are working with supervisors on this at both the preservice and inservice levels. We're getting feedback from them, which suggests that they're far more comfortable with this and other kinds of instruments than they were previously. I think there are two reasons for this: First, because the student teacher is taking some type of responsibility for her own *evaluation;* and second, because you don't have to sit there and talk about what you think versus what I think. They're pleased. "This offered us a chance to see what would happen if we were evaluated this way."

Burkhart: They had trouble learning that this was not an evaluative system, didn't they?

Well, because they're not used to it. They'd just gone through one evaluation system after another in which you get an A, B or C for how loud you speak, or all these other things, which in my judgment talk about absolutely nothing. They are judgments full of sound and fury, signifying garbage. Another student says, "I hadn't even given thought to most of the areas listed on the check sheet, but the discussion we had on the different forms of teacher-pupil behavior made me feel that I could do a decent job of evaluating my teacher, including myself." She makes a comment to that fact that this should help the college supervisor be a little bit more proficient. I enjoyed that. I did not bring just the kind ones with me. Some of the people thought that it was a waste of time. The teacher in the training film I talked about came to the studio and looked at it. She had seen the instrument, and I enjoyed her comments. She was saying, "You know, if I had asked just one more question here to follow that up, I think I could have gotten more than I did," or, "If I had called on that youngster over there, because of the nature of what that youngster is, I think I could have gotten more here."

Lierheimer: Did she say that because she saw this coming out of the instrument, or did she say that simply because she saw her own behavior?

I think that it was a combination of both, Al. I think part of it was seeing herself, and there's no substitute for that, but I think that it's also a question of knowing that these behaviors existed and knowing that I could see myself this way.

FIRST ISSUE: WHO IS RESPONSIBLE FOR DECIDING WHETHER THE OBJECTIVES THAT THE TEACHERS ARE SETTING FOR THEMSELVES ARE IMPORTANT?

Lierheimer: I see that the purpose is, as you said, to let teachers see their own behavior in some sort of an organized fashion. But there are several questions that bothered me. For instance, who answers this question, "Why are the teachers behaving the way they are?" And, "Who determines what the teacher's job is and whether or not the objectives which they are setting up for themselves are the most important in the series of things that they do in the classroom?" To let them see their own behavior is one thing, and to give them a tool for looking at it more discriminatingly than they do is great. Observation for the sake of evaluating their own behavior in terms of their objectives is fine, but what about those objectives? Somebody has to make this judgment on the person, assess them in these terms, and I keep being reminded of that. You know, I can see this instrument as an instructional tool, which is more helpful than the kind of comment that you typically get, but I'm looking at it critically from the other viewpoint. That is, in terms of assessing some of the objectives that . . . .

Kaplan: I'm not interested in assessing them at all. I have a personal equation about college supervision. That is, the less a supervisor talks, the better he is. I'm working toward muteness. I don't feel adequate, really, in the role of the college supervisor who walks in to assess whether what you're doing is good, bad, or indifferent. I believe that the teacher in the classroom should realize that we're finally giving them the responsibility of everyday on-the-job evaluation. I'm delighted to give them this responsibility.

Lierheimer: But I'm more worried about how you're going to get teachers in the classroom to begin with. Did they just come in off the street? Who decided that they were employable or unemployable? How did they get there in the first place? Sure, once they're there you can give them all this stuff, but how did you decide that they were the ones who really ought to be in the classroom?

Lang: You also have to decide whether or not they should stay in the classroom, Len.

Lierheimer: Yes, that's true.

Burkhart: It might be useful to say that the teacher's capacity for making evaluative determinations is the basis for this. What we want to do is to evaluate whether or not they can evaluate. We give them feedback information to determine their evaluative capacities.

Hite: But he said that he didn't want to evaluate.

Burkhart: Yes, but I wouldn't do what he wanted. Then after having done that, you sit like Lenny did and you say, "Well, what do you think about that?" You get to see whether they are making comments, or reasoning about their behavior.

Lierheimer: You like Kaplan's system because the teachers are working in that fourth column of evaluation of your own system, and people don't usually work there. They aren't usually engaged in evaluation.

Burkhart: Yes, they're making the teacher work in our evaluative column, and that's one of the places where we can look at a teacher. We can see what their thinking processes about themselves and their pupils are like. I think that I like his idea of not going into the classroom to observe the teacher and make evaluations (though I argued with somebody last night, that I would). I can see now that it's better to sit down with the teacher's self-evaluation, which is his own reaction to his classes. Then you could work toward distinguishing whether this person was able to achieve his desired objectives. Now there are some things that are educationally operative about this approach. One is, if you can get the teacher to state two objectives, each concerned about a different type of thing, then you may have a basis for making decisions. For instance, "I want the classroom to be orderly, not a mess," and, "I want the children to feel free." On the surface, these are contradictory objectives, and the teacher must become quite an evaluative person as soon as he realizes that he has to do two different kinds of things at the same time. So it's this process that I think we ought to certify — the ability to assume responsibility for interacting with other people, for wanting to look at yourself, and for being able to set goals and meet them. Now that's one of the solid things that can be done, and it's really not one of the most expensive things that we could do to help teachers become better and to determine whether they were thinking. A teacher says, "Well, I just . . . think I did a good job, and I don't know why we're sitting here looking at this video tape; it's not one of my best classes." We get an awful lot of reaction like this, and Lenny keeps sitting there saying, "But I'm not asking you to evaluate," and they keep arguing with him and being defensive. Then you ask them a question to open up their inquiry and they attack you. Then, I think, maybe we ought to say, "Maybe you're the kind of person who's not capable of sharing or growing, and if this kind of behavior is repeated, we don't want you in the classroom. We are certainly not going to certify you."

Bown: I'd like to follow that up, if I may. I think we talk sometimes as though the teacher in the classroom is not self-evaluative. Our experience with more and more of them, along with what Lenny is saying, is that they are terribly evaluative of themselves. They are deeply conscious of wanting to do a better job and of not knowing quite how to get started.

Burkhart: That's not evaluative. When somebody's deeply conscious and willing and desires and wants to be more aware, they are still not evaluative, unless they are aware and precise.

Bown: All right. But in terms of the kind of vacuum that the teacher sometimes feels that she is in, it seems to me that she has only two value dimensions: good and bad; effective, not effective. It seems to me that the thing that Len is offering here, the thing that Bob was talking about, is an attempt to chart this very complex business of the classroom, the very complex process of learning and teaching, and the various kinds of interactions that go on. Then we have something more than just *good* or *bad*. It seems to me that this charting is really very necessary, and as it's been said here, the teachers usually respond well to all of these different pieces. It gives them a different way of conceptualizing the complexity with which they know they are dealing. It gives them a way of managing it in a sense, or of looking at it, of recognizing the places in the chart where they are not operating at all. It gives them enough perspective to think, "Maybe I should be operating in this area."

Kaplan: We've been playing our role as college people as someone I would call a catalyst. For instance, we may suggest, "Now, you know, we had no mark here. Did you feel that you want to do anything in this behavior? Do you feel that it is important to you?"

Burkhart: Well, now there is your underlying value structure, Lenny.

Hite: Yeah. This is what I was going to say. I don't see how you can say that you don't really use this as an evaluating device. Because the mere fact that you expose people to a range of behaviors is an inference to them that it's desirable to display a range of behaviors. You've made some other kinds of clues which I think suggest rather strongly that you are looking at this in an evaluative way. You said, for instance, "Teachers tell you that their pupils respond in a certain way for the first time." Why did they do that? Because you were there? Because of the instrument? What was this? Does the instrument, for instance, tell you whether the behavior you see is a change, or does it tell you that you're seeing the long-time structure of an individual person?

Kaplan: No. It doesn't say any of those things, Herb.

Hite: Does it say which kind of affective behaviors are appropriate and which are not?

Kaplan: No. It says none of those things.

Lang: In reading the analysis of behavior, there does seem to be a value judgment in those that you've listed. As I look them over very quickly, there are very few that appear to be negative. Primarily, they appear to be those that are positive. Now, certainly in the classroom there are both. There are things that the teacher does that are good for the conduct of the class. But as we read these behavior items, they seem to be things that you consider to be desirable. Now, if that is so, you have a built-in value to start with.

Kaplan: Agreed. I think the difference is in who makes the inference.

Hite: Well, don't you make it when you make the chart?

Lang: Haven't you put in an expert judgment into the identification of behavior items which you consider to be desirable?

Kaplan: Oh, yes indeed.

Lang: But then you have essentially an evaluative instrument whether you use it that way or don't. Apparently from the comments of those who've used the instrument, they believe that they are being evaluated. They think that it can serve to evaluate, and it is being used by supervisors for evaluation.

Kaplan: It could be, and I made that statement initially.

Burkhart: I think, Lenny, the thing that you're concerned about is its supervisory role and I'm delighted that he brought this role up, because there is no training for the role for this most responsible position in the school. I mean, if there is one major gap area in the education system, this is it. We don't know how to train teachers, but traditionally people have been making all kinds of subjective judgments in that role, one judgment after another. The difference that is important is between "judgments" and "evaluation." Judgmental persons really haven't been stopping to look. They haven't been stopping to analyze, to perceive openly and to think about alternative viewpoints. They haven't been interacting with each other with a positive purpose, other than to help their students meet someone else's image. We don't want that kind of judgmental behavior now; that is making the system inoperative. We do want evaluative kinds of behavior. That is, to be able to analyze your behavior, to talk about it and direct it with some sense of purpose. I think Don started it with his emphasis on observation. Well, we've got to have people look at their behavior so they are no longer making this kind of good-bad judgment about themselves. Where they are first saying, because of observations, "Oh yes. That's so," or, "I didn't do this enough," or, "I wanted to do this, and I'm going to have to change in that way." It's a difference in attitude that's essential.

Medley: Let me just kind of jump ahead and illustrate how I see this kind of instrument used in certification in terms of what Al's talking about. Let's say that certification is a two-step process, that when a teacher finishes his preservice practice, he's given a learner's permit and can go into the school system. Let's say that when the teacher is awarded tenure in a public school system in the state, he's become certified, so you have two steps. Now you have to use the instrument differently. When a superintendent or supervisor decides whether he's going to award a teacher tenure or not, then he has to evaluate the teacher's behavior against the objectives of the school. He might take this thing and say, "Well, I want teachers who exhibit these behaviors." He might get the descriptions of the teacher's behavior and select, or rather keep the teacher or fire her, depending on whether or not she conforms to the model.

At the end of training, we don't know what school system a teacher is going to work in. There may well be different objectives in different systems; different skills are appropriate. At that point we might say, "Well, we'll take this instrument, and we'll say to the teacher, 'Now, I'd like you to go into this classroom as a student teacher and get the kids to exhibit behavior 4.3, and you try to show 5.7 and 2.6.' " And if a teacher can go into a classroom and program her own behavior, and pull out of this list of different things, certain ones to do and exhibit them on command, then the teacher is probably prepared. She's like a surgeon who knows how to use a scalpel and how to sew, or whatever they need to know. But whether she cuts the right organ out and so forth is another kind of decision. Maybe we can make sense out of this this way, in terms of looking upon the function of teacher education as giving a teacher a lot of skills, and the teacher's effectiveness has to be measured on the job someplace. I'm very much confused about what teacher effectiveness can mean in the abstract. You can't talk about effectiveness unless you have certain objectives, a certain problem situation, a certain class, and to talk about this in the abstract doesn't seem to get us anywhere.

Jennings: The use of this thing as an evaluative technique all by itself without objectives as a framework would only provide a new element of gamesmanship for the teacher vis-a-vis the supervisor. The eraser or the pencil sharpener will be passed from room to room, warning you that the instrument is going to come in next. The reason for all this is because of the mythology that we in education always create. First of all, almost by definition, the practicing teacher is a slob. Excuse me for using the strong language. The reason that we teach student teachers is to get them in there and correct the mistakes that we made the last time around. This time you're going to be good. The reason we leave teaching and go into publishing, for example, is to produce teacher-proof material so the slob doesn't make a mess out of things. What I like about what you are describing here is that this is the kind of instrument that lets us at least begin to say what's what. I don't care that they're all plus. I'd be just as happy as if they were all minus. If we can only get to the point where we can get someone to go into a classroom and behave like, if you will excuse the expression, a good dramatic critic, one who says, "I went and I looked and this play was about . . . This play was good or bad in terms of the dramatist's work, in terms of the set designer's work." You go down the line, and then finally the actor's. "The actors, in terms of their own intent, were able to do A, B, C, and D." And finally, "Go," or "Don't go." This is, I think, effective and useful evaluative processing, because there is a point at which every dramatic critic, or even every book reviewer, finally must take the plunge and say, "You know in my judgment this stinks," or, "It's marvelous." That's what you've got to have. And, damn it, we don't do it. All we do is set up a situation in which the eraser can be passed from room to room, so that we can pull out of the desk that piece of programming so that the character who comes in the door is essentially our enemy anyway, is going to be able to go out and say, "I didn't see any waves." And you're very happy to go through the process, because someone in the echelon above you told you, "Next Wednesday you're in that school. Come back and fill out your sheet." You want to talk programming?

Burkhart: Yes. I want to talk programming for a minute and state some assumptions. The assumption behind the taxonomy and this whole viewpoint is, "What we owe kids is a whole life." It's just that simple and if we don't provide some of these cells . . . I don't care whether Lenny doesn't want to provide these last cells, but I do. I think that if we do we're going to have kids who are going to build a better society and not destroy us. And they have every right to if we don't give them any equipment for knowing that they're doing it. This taxonomy interests me very much because everyone of the lower categories before you get to valuing doesn't have a thing to do with thinking. They have a lot to do with responding, with being an interesting animal. Maybe we want more interesting animals in our classrooms, but, boy, I want them to be trained.

Jennings: Well, that's all you can do with animals.

Medley: You've got to leave it to the teacher to call which ones she wants to do and when she needs to, you know.

Burkhart: That's right. We're not going to decide when she needs to, but I'd like to know that she can. And then, if I'm going to work with a school system, I don't want to work with one that doesn't want to do a lot of these things. You know, if I'm going to make some evaluations about my friends I want ones who are only going to work in three areas.

Kaplan: We're finding in Florida, at least I am, that there seems to be a great demand from teachers out in the field to get involved in this kind of training. Just in the past week we have been called on by four counties in the State of Florida to come to them with this and other kinds of instruments to help them, and I find that to be very positive.

Hite: How does this really work, though. You said it helps the teacher to discover whether or not his own objectives are met. Now, what does a teacher do with this information in terms of an objective? Can you give us an example of how it might work best?

Medley: Herbert, can I interrupt to say that a teacher's objectives are usually expressed in terms of what the kids are going to do in the classroom, not how much they're going to get on a test. She wants them to do certain things during the lesson, and if they do these, she's achieved her objective.

Hite: Okay, but that's kind of what I'm after really. It's the first part of what I'm trying to find out. Len said that, as I understood it.

Medley: I was afraid that you weren't going to say that, Lenny. That's why I interrupted. You look like that's what you were going to say.

Kaplan: I'm glad that you read that as I wrote it for you.

Hite: He thinks that he can talk to me more sharply.

Kaplan: Well, he knows this better than I do. That's all right.

Hite: How does it work with the teacher? You said that it helps the teacher do something or other with her objectives, to see whether or not her objectives are made. What does a teacher do? How do they do that?

Kaplan: Well, since we haven't done that yet, I'll hypothesize for you.

Hite: Okay.

Kaplan: I suppose that it's as simple or complicated as Don suggested earlier. That is, a teacher can look at this instrument and say, "Well, maybe I want to work on objective number 2.7 today. I want to get kids to clearly express their values. Well, that's my objective. Did I do it, or didn't I? Did it happen, or didn't it?" Again, this is not a question of can you do a test at the end of a given time. This is a question of things that teachers want pupils to do that day.

Medley: Maybe they should look at the test, but they don't.

Hite: You mean that it helps the teacher to define an objective, to state an objective?

Kaplan: In their own thinking, right.

Hite: Rather than to test an objective that they already have?

Kaplan: Yes, right.

Hite: I see.

Medley: Well, isn't there one thing though, Len, that you have done without dwelling on it too much? That is, you have been involved with teachers who have used this in a feedback situation, and as you've talked with them they've looked at their own profiles, tried to make sense out of them, sorted the objectives in order to question themselves about them.

I'm not trying to get back on the stage, but I think that this is a rather important comment, particularly in the light of the comment about those of us who are working with teachers being in the role of the bad guy who comes in to evauate, to judge, and so on. I think that one very important element in common, in much of what has gone on at this conference is the effort that all of us have expressed to get in a different kind of relationship with this becoming teacher, and all teachers are becoming teachers. This, I think, is a very important element. I think this kind of approach is one way that we try to get into this new kind of relationship.

Burkhart: Why do you build in an evaluation system and then say that you are not evaluating? Why are you so coy about evaluation?

Kaplan: No. I'm not being coy about it. What I'm saying is that I want to take it out of the realm of my being totally responsible for it.

Lang: I have a question to ask about that too. I'd like to challenge the attitude that a college faculty has a responsibility for leading the teacher to observe herself, but not to give the teacher any direction of improvement of her teaching activities. I don't think you're doing that. When you say that you're not leading the teacher, I think that you are essentially leading the teacher, but you're leading the teacher without assuming responsibility for leading the teacher.

Hite: I kind of feel strongly about that too, and I'm over here on number 30, "I'm trying to convince others to accept a value." Mine is a negative sort of a statement. I don't think that it's necessarily appropriate for teachers and teachers of teachers to urge certain kinds of behavior without some notion of the appropriateness of that behavior without reference to some kind of set of conditions, that in practice this may be a negative thing. For instance, if we thought that it would be very wise to get teachers from middle-class backgrounds, and the method we chose for doing this was to tell them about that and to show them the students, it might have the reverse effect. Just, you know, doing something that sounds like us being in favor of the thing, does not necessarily bring about the desired result.

Medley: This is getting a little bit philosophical, but we do have an analogy to psychotherapy that is very clear here.

Hite: That's a better analogy, too.

Medley: A person can accept a personal goal that he has identified and defined for himself, and this probably justifies it as much as anything. But my own philosophy on this point is that I don't believe in prescribing. We're trained professionals, or we want to start some day, and this individual that we're trying to train who can't define his own goals, how he ought to behave when he gets out to the classroom and so on, needs to have a list of prescriptions so that he can look in his book and see what he can do, that not . . . .

Hite: I don't give them.

Medley: And say, "What would my professor do?" Then I don't think we've trained him right. I'll make one exception. I think it's a good idea to give him a sort of survival kit, so that he can get through the first experience. But he's not a professional until he gets to a point where he's going to define his own goals and behave that way.

Hite: That's a good point to bring out. I'm not really urging that I be responsible for my students' particular decisions, but I think that my students should be responsible for the values that they form. That is, when they decide that it is the time for their pupils to state a preference for a value, they should decide this with reference to some kind of appropriateness. And both the teacher and the student are responsible for this "Statement of Preference for a Value." Now, maybe one way for the teacher to do this is through the use of questions. Maybe he doesn't state it directly to them, you know, "Now you will seek the value within such-and-such a content reference."

Medley: You know, I just heard a man who spoke on teaching values. He made a wonderful case for getting the student to define his own values. It doesn't matter much what they are as long as he's got them, and he's aware of them. Maybe a democracy needs people with different values. If you're saying that you ought to say, "Now, this is a good value. This is a bad one . . . . "

Hite: No. I think each person has to make the value decision for himself. I think the teacher has to make the value decision. I think the pupil has to make a value decision.

Medley: It should be his own.

Hite: Right, but he should be aware of the range of choices.

Medley: Yes.

Keller: I don't mean to hitch hike here, but my impression is that you have an inventory by which the teacher can make some judgments about his own practices, his own knowledge or lack of knowledge, and what he's doing. I suppose the appropriateness of the document depends to a degree on the institution that's sponsoring it, the individual that's using it, and the teaching situation in which he finds himself. And that this is where the final shape of the document is given.

Burkhart: Well, it's a different type of inventory. It's an inventory that makes it possible for you as an institution to decide what your values are a little bit more clearly.

Lang: That's the next step once you teach them, once you pick this up as the kind of thing that's appropriate for our institution.

Burkhart: This is part of the certification problem. It's the school system, the college and the State saying, "We do have values, by God, we have values and opinions and things that we want, and we're going to state what they are." Now, if you want to go down the street where they have another set of values, go ahead and go down there, but it's the lack of commitment to any value that's the serious problem. What we have here is a means for recognizing and identifying values and for making commitment and getting into dialogue about this as institutions and people. I think this is the thing that bothers teachers more than any other single thing in institutions, they don't know what their institution's values really are.

Jennings: Do you think that this is really the case?

Burkhart: One of the things. Yes, I think that when we don't know what the hierarchy of values are as much as we would like . . . .

Jennings: I see it just the other side.

Burkhart: Oh. Go ahead.

Jennings: I don't know of a single institution, or a single group within this profession or any other profession, that isn't quite explicit as to its value or its systems. Now they may be trivial . . . .

Burkhart: Oh, yeah.

Jennings: They may be reaching and mean, but they are not confused at all.

Burkhart: I'll agree with that. I'm just talking about a dialogue, about not making them explicit in behavior, so that you know that you you should behave in a certain way. I'm talking about a meaningful dialogue with this kind of inventory about what we're doing.

Hite: I think I kind of muddied up the water, and I'm going to try to unmuddy it a bit. I really think that a value is stated by the mere fact of the form of Len's instrument. The statements are positive because they are designed for stating objectives, and usually you don't state objectives negatively. Now they're used slightly differently, but still Len intended to help teachers define their objectives as you said. Now, the mere fact that this chart is, is a value. It says by inference, "It is important. It is desirable to try to get behaviors from youngsters illustrative of a range of kinds of affective behaviors." That's a value just by inference, so this becomes an evaluative sort of a thing. Now my question really isn't to contest that. I agree with this value. All I say is that there are values that a taxonomy doesn't state that you have to add on to the taxonomy. "One tries to convince another to accept a value." This doesn't say anything about the value of the method of convincing, or whether it's appropriate with reference to this teacher and those kids or anything. These kinds of judgments have to be made, too, and added on somewhere within the system. Maybe it isn't necessarily Len's responsibility, but it's somebody's responsibility.

Burkhart: Now, there's another base of discussion here, and that is that there are criteria by which we measure these behaviors, besides range. One of them happens to be whether the environment or the behavior of a teacher does promote learning, because we have a definite commitment to that value. It's our responsibility.

Hite: That's the change part. I wonder a little bit about how you can tell whether or not you're looking at a change in behavior, and whether or not that might be desirable.

Kaplan: Well, this is something that we don't know yet. As we play more with this, I think we will be able to see change, but we don't have that type of data yet.

Burkhart: That's right. As institutions we don't really want people in the classroom no matter how many of these things they can do if they're not promoting learning. These are some specific things that we can say, because there are some kinds of activities that promote learning more than others. We can start to break down our value commitments and make our decisions here. This is clearly our responsibility as schools.

Kaplan: One of the things that teachers have been asking us about learning, at least initially, is, "Are my kids going to read any better? Are they going to be better spellers? Are they going to be able to do their arithmetic better?" Hopefully — we don't know.

Lierheimer: Have you ever tried anything like this on people who are not teachers but turn up in some sort of an instructional role?

Bown: I'd like to give a case example of this. We've been called on recently to work with our engineering faculty at the college level. This is kind of a breakthrough in itself, because most college professors do not want to be looked at. This is an infringement on academic freedom, and so on. They've gotten kind of enamored with the idea of video taping. It's fairly popular, and it is sufficiently gimmicky for engineers to understand. They asked us to do the same kind of video tape work with their faculty that we have done with public school teachers. We took the video tapes easily enough, but then, in an effort to try to help them find some handles to deal with their own performance, we gave a little bit of framework in terms of how you might want to look at your own performance. Their answer was very interesting, "Don't bother us with all that. All we really want to know is how to lecture better." This is the kind of dilemma we're in. We are just not convinced that learning is as simple as trying to pour knowledge from one head to another in a kind of direct pipeline, and this, I think, is what this kind of instrument is saying. It makes it possible to see the limits of lecturing as a means for learning during feedback.

SECOND ISSUE: ARE WE TOO CONCERNED ABOUT THE PROCESS AND NOT ENOUGH ABOUT THE PRODUCT?

Singer:* I think we are concerned, at least this conference is concerned, with the evaluation of teachers. We want to know when we graduate a person, whether he has the potential for being a good teacher. When somebody hires him, they want to know whether he has this potential, and the school superintendent wants to know for the purposes of retention or promotion whether he is a good teacher. Thus, evaluation is our prime motive. Now I use an example which Len Kaplan gave before, changing the vocation slightly. Suppose you want to know whether so-and-so is a good violinist. I think what you should do is to hear how he fiddles. One thing to do is to watch whether his elbows are at the correct angle, whether he moves his fingers up and down in the proper fashion, whether his stance is appropriate, whether his tonal values are correct, and so on. But the actual test is to listen to him, and one can almost say that one can listen to a record and not have the person in front of him at all, to determine whether he is or is not a good violinist, you see. What does this mean for teacher evaluation? Here I have noticed very, very little of this, except for an occasional reference in all the discussions that have been given to us. I think what we have to do is look at the product. We have to look out and examine the student, the pupil, not the teacher. Now, what does all the teacher examination, the chart that we have on the wall, the forty-five items that we have listed here, what do they tell us? I think that they tell us only that a good teacher ought to do so, so, so and so. If a person stands correctly, his elbows are at this angle and his fingers move up and down thusly, he is apt to be a good violinist of the New York Philharmonic. Both do things correctly, but there is a difference. I don't know where it comes in here. A teacher can do everything. A teacher can score perfectly, whatever that may mean, on the forty-five items and yet be an average teacher.

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*NOTE: James Singer, is an Honored Observer and Chairman of the Department of Mathematics, Brooklyn College, Brooklyn, New York.

Lang: I'm not sure that it's easier.

Medley: It depends to some extent on what kind of violin you have, whether you have a Stradivarius or some $25 fiddle. Give a good violinist a good violin, and he can play well. Give a teacher a good class, and whether or not he can teach them depends on so many other things, because the product (the learners) are a lot more complex.

Hite: It's a lot harder to be a good teacher than a good violinist.

Lang: You might miss a great artist because he held his elbow wrong.

Burkhart: I'm glad you mentioned the violin, because I don't know of any other area where more practice and more systems are required for becoming an artist. I know of no professional violinist who advocates learning to play by getting rid of any of the discipline. They might change it some . . . . I know of no place in education that's more effective in terms of having a master right there with the learner, a master who is really the meanest and most demanding kind of person to whom you could pay fifty dollars an hour to provide that little extra which helps you to become yourself more effectively. Now I've heard a lot of claims that artists are those things that grow like wild weeds, and, believe me, I know they don't grow that way. They need an awful lot of work, and one of the reasons that musicians have been given help and support is because they are effected by their teachers. I want to ask you, Dr. Hemphill, because I heard you say last night that there are ways other than looking at teacher behavior for evaluating the effectiveness of the teacher in the classroom. Would you comment on that?

Hemphill: Yes, I've said that. I'm not sure that I'm right. I do think that we ought to go carefully, if we move in the direction of pinning all our hopes on the behaviors of the students as the means for evaluating teachers, because there may be other possibilities that are far superior to this particular thing. My feeling is a whole lot like Don's over here — the linkage between the teacher's and the students' behavior may be a weak one rather than a strong one, which may not be the case of the violinist. The link between his abilities and the music that he produces may be a tight one rather than a weak one. It's in this type of context that I think we have to go carefully as we look at student behavior and make inferences as to the quality of teaching.

Kaplan: I've been sitting here charting you people, and I've filled up an awful lot of the right side of the instrument. The value side.

Lierheimer: For a nondirective counselor, this thing is really rigged.

Kaplan: I congratulate you.

Burkhart: That's what I'd like to conclude with. I never heard the word value mentioned so often, and Kaplan has demonstrated his system with us by pushing us into analyzing our own system.

Hite: And then he evaluated us.

Burkhart: That's right.

The Development of the Florida Taxonomy of Affective Behavior in the Classroom

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Introduction

Teaching has, in the past few years, been receiving close inspection unparalleled in the history of American education. Few educators would deny the existence of teacher preparation, but many have voiced alarm regarding the objectives and procedures of this program. This dialogue is most evident as it applies to how teachers should be evaluated.

In an informal survey conducted by Kaplan, Young, and Schreiber (1966) it was discovered that the evaluation of teacher competency is, in a large majority of cases, conducted by a supervisor, usually untrained in the objectives and mechanics of teacher evaluation, sitting in the rear of a classroom busily taking note of those items considered worthy of discussion at a later date. This form of evaluation leaves much to be desired as it tends to generalize about teaching behaviors and, therefore, becomes vague and confusing to the learner.

The major barrier to change is the lack of observational systems designed to locate teaching behaviors and focus in on them. A thorough investigation of the literature has produced evidence to support the notion that educational objectives can be classified into three major domains:

1. *Cognitive:* objectives which emphasize remembering as well as solving intellectual tasks.
2. *Affective:* objectives which emphasize a feeling, an emotion, a value, or a degree of acceptance or rejection.
3. *Psychomotor:* objectives which emphasize some muscular or motor skill, some manipulation of material and objects, or some act which requires a neuro-muscular co-ordination. (See *Taxonomy of Educational Objectives,* Bloom, Krathwohl, *et al.*)

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Observation systems pertaining to the cognitive and psychomotor aspects of teacher behavior have been developed. Many of these instruments are now in use and are providing important data. However, an investigation of the literature suggests that there are few, if any, studies dealing with the affective domain. It is from this need that the *Florida Taxonomy of Affective Behavior in the Classroom* has been developed.

The taxonomy developed by David R. Krathwohl, *et al.,* in their book *Taxonomy of Educational Objectives: Handbook II, Affective Domain,* provides a framework for observing and recording the affective behavior of the teacher and students in a classroom. In its regular form, this framework consists of five categories or behavioral hierarchies with sub-categories contained in each (re: Fig. 1 for description of categories).

The Florida Taxonomy attempts to break down these categories into specific behaviors and to provide the mechanics by which to score their occurrence. The discussion or clarification of these behaviors and the scoring procedures constitute the remainder of this paper.

FIGURE 1

Summary of Categories for the *Taxonomy of Educational Objectives: Handbook II, Affective Domain*

David R. Krathwohl, *et al.,* David McKay Company, Inc., New York, 1964

1.0 Receiving (Attending)
    1.1 Awareness
    1.2 Willingness to Receive
    1.3 Controlled or Selected Attention

2.0 Responding
    2.1 Acquiescence in Responding
    2.2 Willingness to Respond
    2.3 Satisfaction in Response

3.0 Valuing
    3.1 Acceptance of a Value
    3.2 Preference for a Value
    3.3 Commitment

The FTAB consists of five categories, each representing a hierarchy of affective behaviors. These categories are consistent with the Krathwohl

- 4.0 Organization
  - 4.1 Conceptualization of a Value
  - 4.2 Organization of a Value System

- 5.0 Characterization by a Value or Value Complex
  - 5.1 Generalized Set
  - 5.2 Characterization

The Florida Taxonomy of Affective Behavior in the Classroom

The purpose of this discussion is to present the rationale, construct, and mechanics of a modification of the Krathwohl, *et al.* Taxonomy of Affective Behavior. The modification under discussion — The Florida Taxonomy of Affective Behavior (FTAB) — was conceived and developed in an attempt to clarify and make operational the Krathwohl taxonomy. As a research tool, *Handbook II* is limited in its power to assess those behaviors that can be conceived and produced under actual classroom situations. Putting it another way, it does not provide to the observer the breakdown of affective behaviors that may take place in the classroom and, in addition, does not provide the framework to note their occurrence. model. Each category has within it those affective behaviors that can be observed and noted. Each of these behaviors can be assigned to either teacher or student.

Description of the FTAB

1.00 Receiving (Attending)

At this level the learner (teacher and/or student) is sensitized to the existence of certain phenomena and stimuli. The learner is willing to receive or to attend to them. The learner is *not actively* committed to acceptance or rejection of the phenomena into his personal value system.

1.10 Awareness

This category is concerned with the knowledge of something through alertness in observing or interpreting what one sees, hears, feels, etc. It does not imply an assessment of the qualities or nature of the stimulus. It implies simple awareness without specific characteristics of the object, even though these characteristics must be considered to be an effect.

1. *Listens to Others*—The person shows that alertness is present by some overt action. Example: The person looks at the speaker.

2. *Receives Others as Co-Workers*—To permit or concede to another person's presence.

3. *Listens to Advice*—To show that alertness to the fact that alternative consequences are available. The person need only to receive the stimuli, but need not show overt action.

4. *Verbally Pays Attention to Alternative Points of View on a Given Issue*—The listener shows that he can discriminate between alternative points of view by appropriate verbal behavior.

5. *Refers to Subgroup(s)—(Social, Intellectual, Sexual, Racial, etc.)*—Shows cognizance of social differentiation.

6. *Acknowledges Some Aesthetic Factor in the Classroom (Clothing, Furniture, Art Arrangement, etc.)*—Acknowledgment or alertness to sensuous stimula, *i. e.*, sight, touch, smell, hearing.

7. *Aware of Feelings of Others (Introvert, Extrovert, Anxiety, Hostility, Sensitivity)*—Alertness of psychological differences.

8. *Recognizes Own Bias as a Bias*—Ability to discriminate one's own likes and dislikes without necessarily giving reasons or consideration to change.

9. *Recognizes Other's Bias as a Bias*—Can discriminate another persons likes and dislikes without necessarily knowing their reasons.

1.20 Willingness To Receive

Ability to tolerate a given stimulus, not to avoid it. This involves a neutrality or suspended judgment toward the stimulus. At worst, given the opportunity to attend in a field with relatively few competing stimuli, the learner is not actively seeking to avoid it. At best, he is willing to take notice of the phenomenon and give it his attention.

10. *Seeks Agreement From Another*—This implies simply leaving a one-way answer without the value or creation of another person's answer.

11. *Seeks Responsibility*—Overtly shows that there is willingness to undertake responsibility—take charge of what needs to be done.

12. *Seeks Information From Another*—Shows by overt action that he needs facts which another person may have.

13. *Pursues Another Way of Doing Something*—This may be changing the structure of the class seating arrangement in order to change the method of communication. Example: the teacher-lecture formation to circle formation.

14. *Seeks Materials*—Explores different sources for supportive information.

15. *Asks Another To Examine Aesthetic Factors in Classroom*—Overt action showing that he is sensitive to another person's views on sensual stimuli. No action in response is required.

16. *Inquires How Another Feels About Event or Subject*—Asks how another person responds to some fact, but the person's response need not cause a change in his feelings.

2.00 Responding

Responses in this category go beyond merely attending or alertness to the stimuli. The person is committing himself at a very low level to the phenomenon involved. The "value" is not yet his, although he is doing something with or about the phenomenon besides merely perceiving it.

2.10 Acquiescence in Responding

The person consents without protest and complies without taking a definite point of view.

17. *Complies With Existing Regulations (Rules)*—Complies with directive in an overt manner which indicates that the directive is being followed.

18. *Complies to a Suggestion or Directive*—The person understands the consequences and also is aware that the suggestion or directive is motivated by some new situation not basic to the institution's set policy.

19. *Offers Materials on Request*—The materials offered upon request are appropriate and help identify alternatives surrounding a value.

20. *Gives Opinion When Requested*—Complies to the request with a definite point of view.

21. *Responds to a Question*—The response is a spontaneous opinion.

22. *Takes Responsibility When Offered*—Complies to the request rather than spontaneously offering. Overt action is present.

23. *Remains Passive When a Response Is Indicated*—Actively ignores the appropriate response.

24. *Actively Rejects Directions or Suggestions*—The person shows by some overt behavior that he holds a different opinion by either not complying or by complying with protest.

3.00 Valuing

This category is concerned with the amount of worth an individual places on a value. At the lowest level, he may be only estimating the worth of the value, and at the highest level, he shows definite commitment to the value and actively incorporates the idea into his intrinsic system. At this level, his behavior is effected by the value.

3.10 Preference for a Value

The person selects from alternatives. He may either accept or reject the value. A degree of commitment is involved in his acceptance or rejection.

25. *Seeks the Value of Another*—To try to find out how someone else feels about a certain idea and the degree of commitment assigned to the idea.

26. *Defends Value of Another*—To support by verbally admitting commitment to the same feeling, although the commitment to the feeling may not be held on an equal basis by both people.

27. *Clearly Expresses a Value*—Verbally states the feeling and gives reasons for having the feeling. The person tells why he has worth for the feeling.

28. *Defends Own Value*—The person is motivated to state his feeling and to give reasons for having the feeling because the worth of his value is being challenged.

29. *Openly Defends the Right of Another to Possess Value*—The person supports the opportunity of a person to express his own value, but he may not have the value in his own system of values. He shows that he values the opportunity of others to express and hold their values.

30. *Tries To Convince Another To Accept a Value*—The person makes an effort to change another person's value.

31. *Agrees with the Value of Another*—The person has the same degree of commitment to the value that another person has.

32 *Disagrees with Value of Another*—Verbally rejects the worth of the feeling without supporting reasons for the rejection. The person is not rejecting the right for the other person to have the value.

4.00 Organization

This category describes the beginnings of the building of a value system. It is subdivided into two levels, since a prerequisite to interrelating is the conceptualization of the value in a form which permits organization.

4.10 Conceptualization of a Value

This category is concerned with a person's general notion or formulation of ideas.

33. *Makes Deductions From Abstractions*—The person concludes or infers a value from recognition of more than one value. He isolates certain characteristics of a concept.

34. *Makes Judgments (Implies Evaluation)*—To isolate certain characteristics of a concept, and then to look at the worth of these characteristics in relationship to his own values.

35. *Compares Own Values to That of Another*—Examines his own and other's values in order to discover the similarities and differences.

36. *Attempts To Identify the Characteristics of a Value or Value System*—Examines his and others' values in order to place them in a hierarchy or system of values.

4.20 Organization of a Value System

37. *Compares and Weighs Alternatives*—To be cognitively aware of the consequences of adopting certain values and weighing these against each other.

38. *Shows Relationship of One Value to Another*—To define the cause and effect or any overlap of two separate values.

39. *Ties a Specific Value into a System of Values*—To recognize that a specific value does not oppose the worth of any other value and to show by some overt action that the value has been fitted into his value system.

40. *Synthetizes Two or More Values into One Value*—This implies creativity . . . A creation of a value from two or more previous values.

5.00 Characterization by a Value or Value Complex

At this level of internalization the values already have a place in the individual's value hierarchy, are organized into some kind of internally consistent system, have controlled the behavior of the individual for a sufficient time that he has adapted to behaving this way; to call forth the behavior no longer arouses emotion except when the individual is threatened or challenged.

5.10 Generalized Set

This category is concerned with the person's basic orientation which enables him to reduce and order the complex world about him and to act consistently and effectively in it.

41. *Revises Judgments Based on Evidence*—Reorders his thinking and places a new degree of commitment on an old value in light of documented facts.

42. *Bases Judgments on Consideration of More Than One Proposal*—Comes to a decision. (Elements of using another person's plan as a base of support for his decision.)

43. *Makes Judgment in Light of Situational Context*—Comes to a decision based upon a one-time happening. This could include revising an attitude in light of different facts; stronger commitment than above two, incorporates into intrinsic system.

5.20 Characterization

The behavior describes the personality.

44. *Develops a Consistent Mode of Behavior* — Another person can describe and predict the person's behavior in a given situation.

45. *Continually Re-evaluates Own Mode of Behavior* — The ability to look at one's behavior objectively.

Mechanics for Recording Data

The FTAB provides a framework for observing and recording the affective behavior of the teacher and students in a classroom. The role of the observer is to watch and listen for signs of the behaviors described, and to record whether or not they were observed.

There are five (5) separate 7-minute observation and marking periods in each 35-minute visit to the classroom. These are indicated by the column headings, I, II, III, IV, and V (See Figure 2). During period I, the observer will spend the first 2 minutes observing the behavior of the teacher and students. In the next 5 minutes the observer will go down the list of items and place a plus (+) in the T column (teacher behavior) and/or P column (pupil behavior) beside all items he saw occur. The observer will place a minus (—) in the T and P columns for all items that did not occur. The observer will place a zero (0) in the T and P columns beside all items for which he cannot make a discrimination. For both teacher and pupil behavior each item should be considered and marked either with a +, —, or 0. A particular item is marked only once in a given column, no matter how many times that behavior occurs within the 7-minute observation period.

Repeat this process for the second 7-minute period, marking in column II. Repeat again for the third, fourth, and fifth 7-minute periods, marking in columns III, IV, and V. The observer then adds the total number of +'s recorded in columns I through V for each teacher or pupil behavior and records this in the columns headed TOT. There may be from 0 to 5 +'s for each item.

TOT		I	II	III	IV	V	1.00 Receiving
T	P	T / P	T / P	T / P	T / P	T / P	1.10 Awareness
							1. Listens to others
							2. Receives others as co-workers
							3. Listens to advice
							4. Verbally pays attention to alternative points of view on a given issue
							5. Refers to subgroup(s) (social, intellectual, sexual, racial, etc.)
							6. Acknowledges some aesthetic factor in classroom (clothing, furniture, art)
							7. Aware of feelings of others (introvert, anxiety, hostility, etc.)
							8. Recognizes own bias as a bias
							9. Recognizes other bias as a bias

Figure 2. Mechanics for Scoring FTAB.

The +, —, and 0 were selected as appropriate for scoring the FTAB. These designations fit the criteria set down for observing behaviors as developed by Medley and Mitzel in their chapter, "Measuring Classroom Behavior by Systematic Observation."[1] This method of recording was used for their *Observation Schedule and Record* (OScAR), and more recently used by Bob Burton Brown in *The Teacher Practices Observational Record* (TPOR) and *The Florida Taxonomy of Cognitive Behavior.*

Advantages and Implications

The FTAB is designed to produce most, if not all, of those measures described in the Krathwohl taxonomy. For the most part category designations and definitions have been retained, but in certain instances individual categories have been modified to reduce overlap between categories. Probably the greatest advantage to the FTAB is that it provides direction to the learning process. It does this by providing terminology that is hopefully clear and meaningful. It is anticipated that the objectives classified in this observational instrument will provide for the learner those kinds of behaviors expected of students and teachers and, in addition, provide for them the direction and framework to assist in the acquisition of these skills. It is perhaps naive to hope that the FTAB can reach this ideal because of the difficulties involved in using language to communicate, but the attempt is made to provide direction to this objective insofar as affective behavior in the classroom is concerned.

A second value to be derived from the FTAB would be to provide a convenient vehicle for students and teachers for describing their behavior and pointing out to them those areas that need development. If evaluation is to be meaningful, then it must take the form of self-analysis. This instrument can provide the framework for learners to look at their own behavior and react accordingly.

Thirdly, by working with this instrument it may be possible to discover some of the principles of ordering and/or classifying behaviors. This ordering could provide useful information leading toward a theory of learning and instruction applicable for classroom use.

There is adequate reason to assume that teachers need to be trained to identify some of the more subtle and uncommon types of student and teacher behavior. Until they become aware and sensitive to a variety of behaviors, they may neither have the skill to identify nor the capability to produce these more uncommon forms of teacher-student behavior.

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[1] See *Handbook of Research on Teaching.* N. L. Gage, Editor. American Educational Research Association. Part II, Chapter 6, pages 247-328, 1963.

Summary

The Florida Taxonomy of Affective Behavior in the Classroom, a modification of the Krathwohl, *et al. Taxonomy of Educational Objectives: Affective Domain,* consists of five categories, each assigned to teacher and student behaviors. Contained within these categories are forty-five specific behaviors constituting a hierarchy. The system lends itself to the study of affective behavior in the classroom between teacher-student and student-student. These behaviors can be recorded and used as a means for providing a theory of learning applicable for classroom, in-service and supervisory use.

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lenses for educational inquiry

robert c. burkhart

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LENSES FOR EDUCATIONAL INQUIRY

INTRODUCTION

There is no adequate explanation of an alive idea. As with a vital individual, an alive idea has different meanings to different people; it grows and changes with each new problem. Meeting one is rather like being introduced to a new personality who makes his presence felt in the environment through what he has to contribute. Possibly because of your interaction with the central idea we* wish to present, new perspectives toward it may be developed.

Since we first conceived this idea, it has been a controlling one and has expanded our ideas of the dynamics of life. In our first explorations of it, it changed our ways of thinking about how content areas relate to each other. It has suggested rather forcefully some necessary changes in our educational procedures and curriculum. It has affected our vision, and as a result, we do not see the world around us as we did.

This expansion in vision is analogous to discovering some new word which holds our attention. When we first use such a word, we realize that others are using it too. It is not that our hearing has improved, but rather that we have found a means of improving our listening. An idea which changes our vision acts like a telescope or microscope and changes our idea of what is relevant in the world.

Such ideas lead to the discovery of new possibilities. They also help to identify new problems which require the development of new solutions. With new viewpoints, we can see gaps in worlds which otherwise seemed completed.

To be able to see a gap is to have vision which extends beyond the boundaries of that which is obvious. There is a kind of vision that goes beyond the immediate to the underlying essential that a leading educator most needs and most values. Any idea which improves his performance in this capacity is worthy of introduction.

Ordinarily, if you look at a piece of glass, you do not think that it is going to allow you to see new things. However, if it has been treated optically, ground and shaped as a lens, it will. A lens is ground according to a formula which is an abstraction for the determination of a field of

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*NOTE: *We* here represent the staff of the Teacher-Learning Center and the co-authors Burkhart and Rogers of this material relating to the topic of lenses for inquiry.

LENSES FOR EDUCATIONAL INQUIRY

"If we leave out the information from one field of vision, our understanding is likely to be questionable from that point of view. The unifying factor which will allow us to establish a broadly based viewpoint is the *range* of inquiry processes we employ to screen the information coming to us. The key to our processing of this information is the form of the question we ask, or attempt to answer. The questions we ask constitute kind of lens which provides us with relevant information about our experiences. We feel that there are four question forms: Procedural, Conceptual, Suppositional, and Evaluative. Each is a lense which transmits and provides a different way of inquiring about or organizing information. To be educated for full mental functioning, man needs to be able to question and answer the world in these four ways. When we look at learning in this way, some serious gaps become evident in the kinds of mental functions which school systems make it possible for pupils to perform."

Robert C. Burkhart
Coordinator of the Teacher
Learning Center of the
State University College at Buffalo

ISSUES

One: Will this structuring help destroy the imaginative in life?

Two: Has this system really been fully tested?

Three: Does the system provide for *on-the-spot* self-corrective analysis during instruction?

Four: Does this system provide a means of filling gaps in pupil needs where they have no previous experience?

Five: Does a system such as this help you learn anything about your own identity as a teacher?

vision. Although the abstraction itself is not the means for visualization, it is through the abstraction that the means becomes possible. This is an irony because abstract ideas in themselves do not appear to possess the vitality and aliveness of a new personality.

The task in presenting our idea is not only to indicate the formula as an abstraction, but also to indicate the new kinds of visualizations which it seems to us are made available. This gets at the heart of our communication problem, because the idea with which we are dealing makes a variety of different fields of vision available.

THE IDEA

Some things are harder to see than others, and among the things which are difficult to see are mental functions. We have attempted to build a set of abstractions, which like lenses will provide the means to identify a variety of mental functions in terms of behavior. The lenses we are creating cut some things out of our vision and bring others into focus. Through each lens we can see a specific way in which a person is behaving. However, where a gap in a person's mental processes exists, we may find that there is no behavior to be seen. These lenses allow us to see at least four major inquiry processes or ways in which people need to be able to think or function. These processes occur in at least three different fields of vision: Sensory, Affective and Cognitive.*

The Sensory field of vision deals with information which is made available through the sense organs. Sensory phenomena seem tangible, while Affective phenomena are quite the opposite. Feelings are never really visible to the naked eye; rather, they occur within the interior of man and are expressed through his attitudes. The Cognitive dimension of reality is even more remote and harder to see because it deals with our knowledge of the principles which govern our experiences, and not simply with the experience itself. Here, in fact, we are thinking of things abstractly. The Cognitive field of vision is totally intellectual in substance. It is the product of man's ideas rather than of his sense organs or his affective self. The Sensory, the Affective and the Cognitive domains constitute three radically different modes of consciousness. They all have one thing in common, however. They are produced by referents which are available to us if we are looking for them.

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*NOTE: We use the term cognitive in a more limited way than some people, because we feel it needs distinction from affective and sensory kinds of behavior.

	What Conceptual	How Procedural	If/Then Suppositional	Why Evaluative
Sensory	Perceiving	Manipulating	Relating	Discriminating
Affective	Empathizing	Responding	Preferring	Valuing
Cognitive	Comprehending	Applying	Transforming	Synthesizing
Qualitative Behavior	*Fluency*	*Flexibility*	*Originality*	*Rationality*

The first inquiry process is the most traditional — the conceptual. Its sensory component is perceiving, the affective component is preferring, and its cognitive component comprehending. Taken together they result in conceptual enrichment, providing a basis for fluency.

The second inquiry process is procedural; the sensory component is manipulating, the affective is responding, the cognitive applying. Taken together they lead to flexibility.

The third inquiry process is suppositional; the sensory component is relating, the affective empathizing, and the cognitive transforming. Together they provide a basis for originality.

The fourth inquiry process is that of the learner's evaluative capacities. The sensory capacity is discriminating; the effective capacity is evaluating; the cognitive capacity is synthesizing. When combined, discriminating, valuing and synthesizing provide a basis for rationality.

Although the sensory, affective and cognitive modes of consciousness represent three views of the world, they are all part of the same universe. If our knowledge of reality is to be reliable, it must take into account these three different aspects of any single experience. The problem of reliability is in part the problem of achieving congruity. Thus, it is essential that we put together as much information from the different fields of vision as possible. Then we are able to build an inclusive idea of what our experiences mean. If we leave out the information from one field of vision, our understanding is likely to be questionable from that point of view. The unifying factor which will allow us to establish a broadly based viewpoint is the *range of inquiry processes* we employ to screen the information coming to us from these three sources. The key to our processing of this information is the form of the question that we ask, or attempt to answer. The questions we ask constitute another kind of lens which provides us with relevant information about our experiences. We feel that there are four question forms: Procedural, Conceptual, Suppositional and Evaluative. Each is a lens which transmits and provides a different way of inquiring about or organizing information. To be educated for full mental functioning, man needs to be able to question and answer the world in these four ways.

The first questioning process is Conceptual, and it is concerned with sensory, affective and cognitive information about *what* things are. Second is the Procedural area of inquiry. Like the others, it also cuts across the three domains and it is concerned with *how* things can be treated. It is *methodological.* The next area is Suppositional. In this area information is put into an *if/then* context, and problems are handled by supposing about them and changing one's *viewpoint* toward them. The last process is the Evaluative, and deals with the question form *why.* Here, the order, pattern, or rationale for ideas, actions or plans are handled. If any one of several of these processes are left out of our usual ways of inquiring, our reality sources are incomplete and are likely to be inadequate for dealing with the problem in our lives. Thus, we conceive of it as the responsibility of the education system to provide us with an opportunity to develop the full range of mental functions necessary for inquiring about the experiences we have. When we look at learning in this way, some serious gaps become evident in the kinds of mental functions which school systems make it possible for pupils to perform. If the school system's purpose is to provide the pupil with the mental equipment to have a full life and to behave as a whole person, then considerable attention has to be given to the ways in which we are teaching him to inquire about the world.

THE IDEA IN OPERATION

We have given the formula. It constitutes the abstractions that govern the formulation of these fields of vision. Like any abstract formula, this picture [illegible] not convey what could be visualized as a result of applying this formula to our ways of seeing our pupils, teachers, the things they teach, and the school systems in which we are engaged. In a sense, this is a test of a formula. For *if* the categories, like a new word, enable us to perceive as through a lens things we haven't noticed before, both as to their presence and their absence, *then* we will have developed a more inclusive approach to understanding the essentials of our jobs within the operation of an educational system. The idea will have become alive if it enables us to see new things within the experiences we have. In this sense, the change which occurs does not mean that we are doing wholly new things, but rather that we have a new means of seeing the things that we are doing.

This approach enables us to determine the inclusiveness of the ways in which we are dealing with our problem. One test of inclusiveness is, "Are we asking *questions* which will allow us to get a comprehensive understanding of a problem?" The second test of inclusiveness is, "Are we developing *data* with a wide enough range of resources to provide a depth of understanding sufficient to encompass the problem and suggest its solution?" These two tests of inclusiveness (questions and data) constitute criteria sources for the determination of the adequacy of a plan of action. Recently, two different plans of actions have been drawn to our attention, both of which appear to have communicative value because of their strength in these respects. The first is the report of the presidential commission on the summer riots in American cities. Note the type of question to which the report addresses itself, *and* the order of the questions which represent the structure of the report. In essence, the questions are:

What happened (Conceptual)
Why did it happen (Evaluative)
If this is the problem, what do you suppose we could do (Suppositional)
How should we do what you suppose needs to be done (Procedural)

Within this broad framework, the commission addressed itself to seeking depth of information as a basis for forming their answers. They first pictured in great detail precisely what had taken place on an almost minute-to-minute basis. This phase reported the *sensory* information which was available. On the basis of this sensory information, they did a *cognitive* analysis of the kinds of patterns which did set off the riots. Then, in dealing with the long-term basis of the problem and its needed solutions, they discussed the *affective* reasons for the riots, including not only the causes for poverty, but also man's need for dignity. Enormous communication impact came to their report because they utilized many lenses for visualization as a basis for our identifying with their recommendations. The structure of their approach was then an inclusive one.

We wonder how inclusive most education programs are in these respects. But even when a program is an inclusive one, the way in which it is *taught* may leave large gaps. This is evident in the problems of beginning teachers. The types of questions which they ask are likely to be narrow in focus unless their attention is brought to a more inclusive format. The usual classes we see are either conceptual or procedural and are seldom inclusive of either suppositional or evaluative pupil-teacher interactions. This can be seen in the lesson plans which teachers develop and submit, which, over a period of time, often appear to concentrate in one area of inquiry more than the others.

When we visit the classrooms of these teachers, we may find repeatedly that they leave out of their plans any provisions for evaluation, which is most often missing. Within any lesson or lesson unit, usually all four kinds of these questions need to be dealt with. That is, pupils need to know *what* the subject or topic of the lesson is, and in conceiving of it, it helps if they have *sensory* and *affective* experiences as the basis for their *cognitive* understanding. The academic atmosphere which occurs when this does *not* happen is one which lacks pupil involvement.

If a teacher effectively introduces a topic, there is an almost inevitable need for associated learning *procedures, "How* are you going to go about doing this?" If the teacher states these cognitively, they are not likely to be understood. They need to be demonstrated in *sensory* terms, and the pupil needs to be given *affective* reinforcement during the process of employing them. Even when all this occurs, such lessons have a routine meaning to the pupil, unless the teacher is able to develop some fresh *viewpoints* toward the concepts and the procedures which are to be learned. The format of lessons which lack *suppositional* content is that of an *exercise* rather than an *inquiry.* When lessons are put into an *if/then* context for problem-solving, an atmosphere of discovery may be achieved. All of this is of little avail as far as learning is concerned if none of these efforts are evaluated.

Evaluation requires systematic *pre-lesson* statements of *objectives.* Previous to formulating the lesson, the teacher needs to establish *learning criteria* as guidelines for himself and for his pupils. These criteria need to have not only sensory and cognitive substance, but need to suggest that there are important affective values for the pupil inherent within the activity. These are the things that a teacher needs to learn to do, and they are distinctions about which he can be taught to make *self-assessments.* It is clear then that the teacher needs to learn to think about his behavior according to these categories.* He needs these lenses to see himself.

Even when we have developed a curriculum which is inclusive in these senses, and the curriculum is being taught by a teacher who has a

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*NOTE: A research report by Burkhart on some findings concerned with teacher-learning behavior according to this system is included in the booklet, *"Foundations"* from the Teacher-Learning Center Kit.

full range of inquiry behavior (and there are such teachers), there are pupils in their classes who display enormous gaps in these respects. Pupils tend to respond to instruction by engaging in only that kind of mental activity in which they feel secure and to turn off those aspects of a lesson which would require a new or difficult form of behavior. We find pupils who stay within particular processes, or even a cell, in almost all of their behavioral responses, sometimes even for years. For instance, it is not an uncommon phenomenon to find that some middle-class pupils enjoy rote sensory and skill activities and have a strong resistance to suppositional assignments and to affective topics and problems. Similarly, there are segments of the middle and lower classes which are predominately procedural and affective in their response to instruction. Some of these, especially rebel leaders, derive their primary satisfactions in school from achieving recognition from other pupils by their attitudinal and emotional cleverness in resisting the efforts of their teachers. More rare, although of equal importance, are those imaginative and evaluative pupils from all classes who must assume the responsibility for their own learning because their schools and their teachers fail to challenge them in creative areas, and so frequently do their creative learning on their own outside of the school atmosphere. This suggests that efforts need to be made to help students in accordance with gaps in their mental functions, so that they are challenged in areas where they are deficient, and they are reinforced in those areas in which they have mental agility.

Fundamental to all of these objectives is the development for both the pupil and the teacher of an operational understanding of the Inquiry Process. Usually only half of this process is experienced by the child because the teacher and the parent generally ask questions, and the pupil or the child generally does the answering. Children and pupils learn to be answerers first in the home and then at school, continuing through college. The primary problem in training teachers in college is to change them from answerers to questioners,* but not the kind of questioners who aim merely to get answers from their pupils. We need to learn to establish educational situations which will make the entire process of inquiry a part of the pupils' habits of response rather than half of it, particularly the answer half. This form of teacher-training is one that can be seen in the special educational areas, such as that of working with children with

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*NOTE: *Identity and Teacher-Learning* by Burkhart and Neil. International Textbook Co., Scranton, Pa., for further illustrations and analysis of how questions relate to a teacher's development.

speech problems in which the teacher is trained as a research practitioner. The teacher's role is both to help the pupil and to develop methods helpful to other teachers in the future. Diagnostic activity inserts some element of inventiveness and research into education as being role expectations for instructional personnel. These expectations resulted in a form of self-confidence for our student teachers as they realized they could both analyze and control their own and their pupils' behavior in accordance with their pupils' needs as the gaps became evident that required fulfillment. This is the value of developing a system which helps determine for the teachers the adequacy of their learning objectives.

CONCLUSION

What we are saying here is that learning to behave as a total person requires an approach to instruction which moves the pupil from areas of security to areas of need, and in the process teaches him how to learn-to-learn. It is this confidence in himself as a learner that the pupil needs to learn in the classroom, and with it comes the ability to assess his own learning difficulties and move his basis of security from the easily achieved to a belief in his ability to achieve that learning which is difficult for him. Only then is his security an internal one based on a self-demonstrated worth. So, the pupil needs to learn this system of self-evaluation, if he is to achieve genuine self-confidence.

All of this learning is content free, and it may be learned within any existing content. What exists in this approach is the underlying structure of learning within the schools which is essential to learning-to-learn. It is this that all content areas, if they are taught in an inclusive way, have in common. So this represents a basis for across-discipline interaction, and it is not a means of diluting content. Rather, it is a way of strengthening and interrelating all content for the pupil and for the teacher. It can be seen that this approach does not represent a threat to special content areas. However, it does provide, through the analysis of pupil inquiry processes, a means of relating any one content to other contents in a way which focuses on the needs of the learner.

QUESTION: HOW DOES THE GRID RELATE TO SUBJECT MATTER AREAS?

The objective of the inquiry process approach is an instruction system, including teaching methods and materials, aimed at increasing competence in those general learning functions which underlie the several subject matter disciplines. The program is concerned with across-discipline education and the focus is on processes of inquiry by means of which children and their teachers may better learn to learn.

The intended outcomes of the program are patterns of response by which the student and the teacher can improvise on concepts, be flexible in procedures, and be original in what he supposes about problems he faces. The program is intended to develop instrumental concepts which enable the learner to be discriminating about his sensory experiences, valuative about his affective responses, and productively judgmental about his cognitive operations.

A gap which such a system would fill in our schools lies in the number of mental processes not specific to a discipline which are unintentionally ignored by all disciplines. This interdisciplinary approach proposes to cultivate these processes in a balanced and integrated program, without duplicating the work now being done.

The arguments we have advanced in support of this approach are: (1) that sub-systems or components of the school system should be integrated, reciprocal, and harmonious in operation; (2) that they should enable learners to move toward the desired goals with maximum efficiency and to maximum attainment (individualized instruction); and (3) that they should equip learners to continue to learn throughout their lives — in short, to learn to learn (process-oriented curricula); and that, therefore, some system for evaluating the adequacy of existing learning programs and for developing new ones ought to be developed.

In the light of these objectives, two needs are revealed: (1) the need for identifying and utilizing complementary processes which appear to have across-discipline implications, and (2) the need for a procedure by which to identify those learning processes not included in specific curricula. Perception of these two needs led to the attempt to develop an adequate map of universal learning processes underlying subject matter.

QUESTION: HOW DID THE MAPPING OF THE GRID PROCEED?

The mapping operation did not start from scratch. There is a large body of research, though it derives from different viewpoints which does provide a base on which a comprehensive structure for the learning process may be built. We considered five approaches. *One* way of building is to consider the taxonomies (Bloom, Krathwohl) which have already been developed with this very purpose in mind. They specify a sequence of learning purposes in a hierarchical form and constitute a useful map of objectives in the cognitive and affective domains. A *second* way is to consider a *developmental analysis* of human growth, of which Piaget's work is a helpful example. A *third* is to look specifically at the instructional sequence essential for organizing a lesson so that pupils learn to learn — the work that Gagne' has undertaken. A closely related *fourth* approach is to consider the learning process as an elaboration of those steps man must take in order to solve problems. This approach was also employed by Gagne' and is illustrated by those learning programs which begin with rudimentary learning experiences like observation and moves gradually upward to more complex and abstract mental functions. A *fifth* way is to move to basic research and analyze *intellectual functions* by developing representative tasks through carefully designed test items, and then to factor these items into clusters of behavioral characteristics that represent the way man thinks. This work breaks down the intellect into discrete factors, Guilford's way of looking at the problem.

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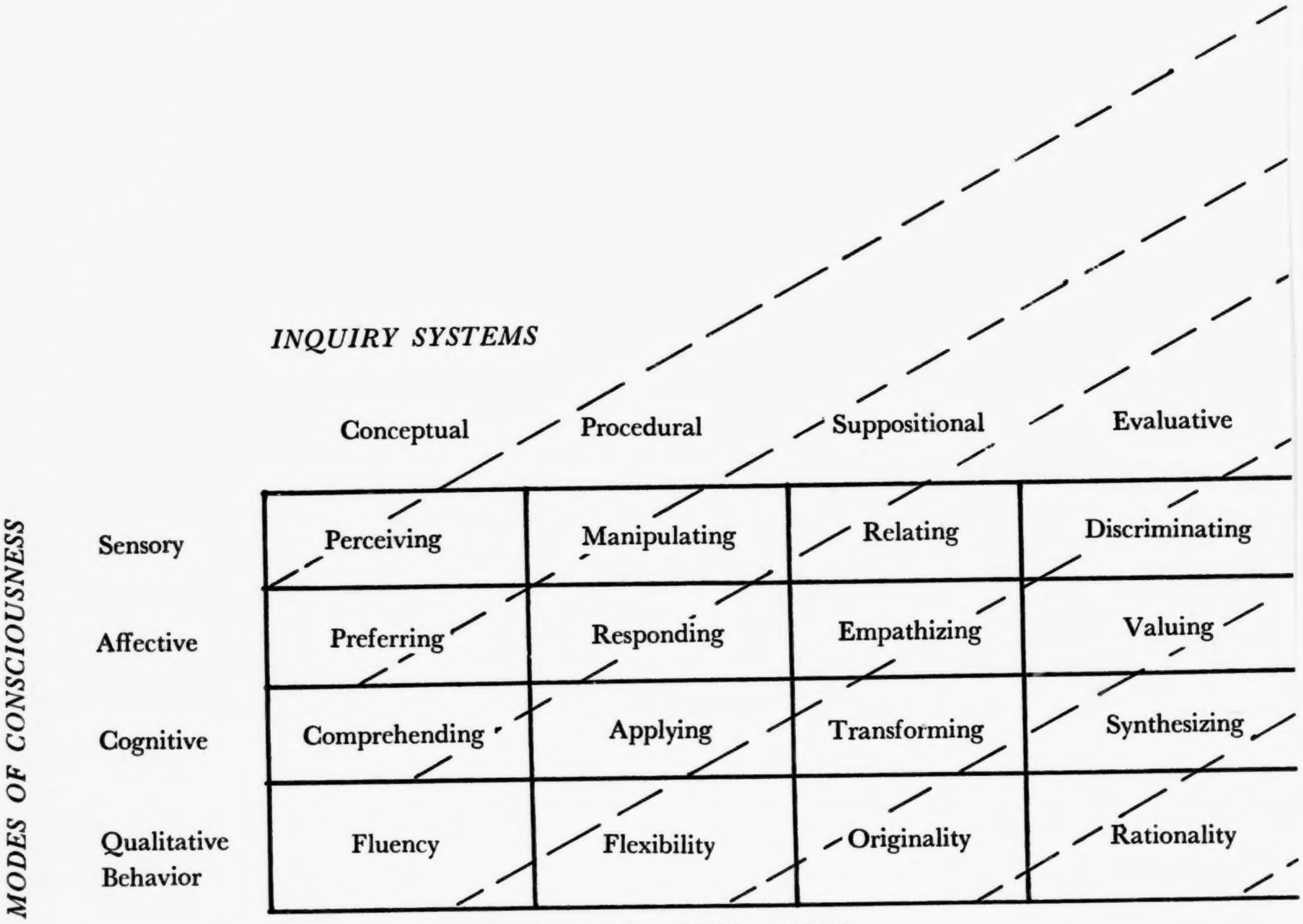
*NOTE: This material was taken from a paper by Burkhart on the "Formulation of the Process Inquiry Grid."

These theories are obviously not unrelated. The fact that there are at least five separate ways of viewing how man learns does not mean that the same referent is not being considered, or that these views are fundamentally antithetical to each other. Indeed, our attempt is to show through the development of an operational model that they are complementary. Nevertheless, these investigators do have specialized sets of terms; they are dealing with somewhat different learning phenomena as a result of their different viewpoints. The differences have the value of challenging workers in applied research to relate and utilize the diverse structures in the development of improved teaching-learning systems.

Our grid, as a working model, synthesizes these major views for *operational* purposes rather than theoretical ones. Operational research, as a form of educational engineering, tries to locate in theories those ideas which have particular promise and relevance for practice, so as to translate them into practice. *The attempt is not to extend theory, but to do something with theory.*

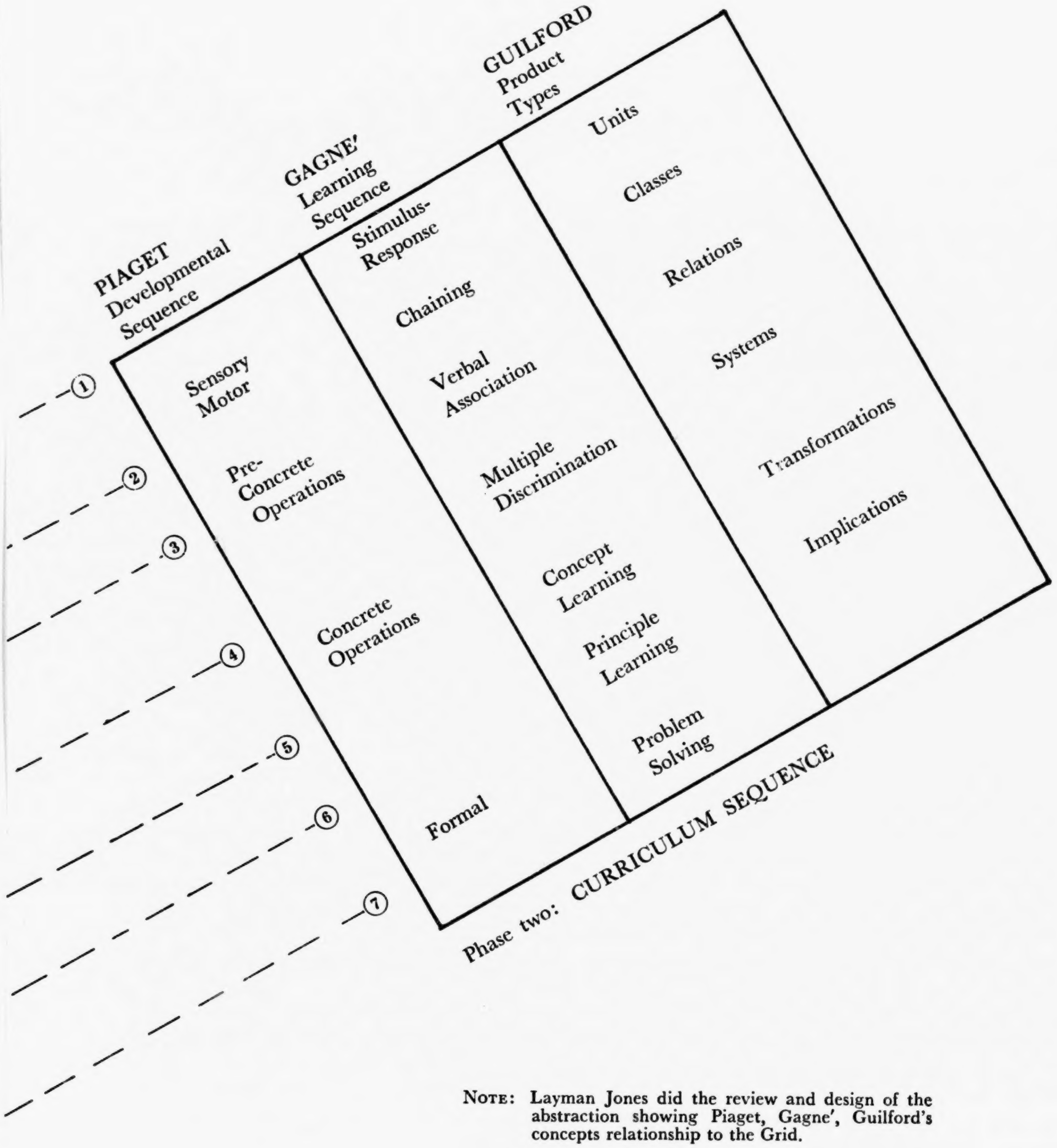
In setting up the model grid, it was necessary to make a number of reformulations, and as more information is derived from operations, others will certainly be needed. *This grid is a first approximation of an operational system from which standards can be derived for analyzing instruction and curriculum as elements within a single system. This is its strength.*

OPERATIONAL MODEL


INQUIRY SYSTEMS
MODES OF CONSCIOUSNESS

	Conceptual	Procedural	Suppositional	Evaluative
Sensory	Perceiving	Manipulating	Relating	Discriminating
Affective	Preferring	Responding	Empathizing	Valuing
Cognitive	Comprehending	Applying	Transforming	Synthesizing
Qualitative Behavior	Fluency	Flexibility	Originality	Rationality

Phase one: INSTRUCTIONAL OPERATIONS


PIAGET
Developmental
Sequence
GAGNE'
Learning
Sequence
GUILFORD
Product
Types
Sensory Motor
Pre-Concrete Operations
Concrete Operations
Formal
Stimulus-Response
Chaining
Verbal Association
Multiple Discrimination
Concept Learning
Principle Learning
Problem Solving
Units
Classes
Relations
Systems
Transformations
Implications
①
②
③
④
⑤
⑥
⑦
Phase two: CURRICULUM SEQUENCE

Note: Layman Jones did the review and design of the abstraction showing Piaget, Gagne', Guilford's concepts relationship to the Grid.

QUESTION: HOW WERE THE PARTICULAR TERMS PLACED ON THE GRID?

Entered directly on the vertical axis of the grid are the taxonomies. Under these the qualitative behavior row incorporates Torrance's master concepts. His work appears to have determined factor-analytically that fluency, flexibility and originality are measures of "creativity." His tests represent an attempt to define operationally and quantify these large behavorial categories.

Indirectly related to the grid is the work of Piaget, Gagne', and Guilford. Their principal categories seem to parallel each other. Thus, the terms *sensory-motor, stimulus-response, chaining,* and *units and classes* might be considered operationally as referring to perceptual, manipulative and receiving activities. Together they suggest an interrelated first stage in a curriculum sequence. *Comprehending, responding* and *preferring* in the grid connect vertically with *pre-concrete operations, verbal associations* and *relations* as the second stage or step in the curriculum sequence. Here, depending on divisions, approximately seven stages seem necessary in order to complete the sequence. The grid posits a sequential set of learning processes which function as a curriculum sequence.

The rows of the grid represent the three modes of consciousness—sensory, affective and cognitive. The basic component is *cognitive*—the oldest of the taxonomies. The *affective* row has been more recently charted; it is also harder to define because it has been less systematically dealt with in organized curricula. Since the *sensory* taxonomy is not yet complete, distinctions here were projected from the previous taxonomies. The concern was to develop as much internal consistency as possible, and to move from more firmly established distinctions to more tentative and theoretical considerations. The headings across the top of the grid designate inquiry processes and are called *Inquiry Systems,* resulted from the need to develop terms describing the vertical columns in ways consistent with the summary qualitative behavior terms laid across the bottom. The word *conceptual* ("What" forms of inquiry) characterizes perceiving, preferring and comprehending; *procedural* ("How" forms of inquiry) describes the activities of manipulating, responding and applying; *suppositional* ("If/then" forms of inqury) sums up relating, empathizing and transforming. Discriminating, valuing and synthesizing constitute different kinds of evaluative controls and the qualitative behaviors (fluency, flexibility and originality) suggested the concept of *rationality* as an operation analysis system which requires the qualities both of highly creative persons and highly intelligent ones. This last consideration is particularly critical in that the matrix hypothesizes processes which underlie the capacity to learn to learn.

QUESTION: IS THERE ANY HYPOTHESIS UNDERLYING THE FORMATION OF THE GRID AND IS IT AN OUTGROWTH IN ANY WAY OF RESEARCH ?

The hypothesis incorporated in the operational matrix is that the processes by which people learn fall into four generic forms of inquiry.*

Each of these modalities is characterized by a generic question at the top of each column:

WHAT — conceptual
HOW — procedural
IF/THEN — suppositional
WHY — evaluative

Questions are introduced because they serve two important functions: (1) they help to determine the structure of the learning activity, and (2) they provide a starting point for the testing of the effectiveness of the activity in producing the desired learning.

This operational approach results in part from the work of mine and Kenneth Beittel. We attempted to analyze the strategies various kinds of students employed in producing artwork in response to special stimuli.†

Continuing analysis suggested that what appeared to be a "deliberate," step-by-step approach was really a sensory analysis of specific objects. The outstanding fact about these pupils' verbal behavior is that they were continually concerned with questions about what things are, and experimentally it was shown that this type of behavior could be promoted by designation of external objects. The greater the pupil's comprehension, the more likely he was to make an abstract rather than a concrete representation; and when pupils moved from convergent representations of objects and classes of objects to divergent interpretations of them, they appeared to be exploring concepts as images or ideas.

A similar phenomenon was observed with students whose work was described as spontaneous, except that their work appeared to be concerned with the discovery of *procedures.* They tended to avoid concentration on visual subject matter when it was given, and to exhibit strength on verbal tests calling for procedural innovation such as Torrance's *Product Improvement Test.*

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*NOTE: The Process Iuquiry Grid at the conclusion of the chapter for specifics relating to generic forms of inquiry. Pages 247-248.

†NOTE: These strategies were initially identified by the terms *deliberate* and *spontaneous* (Robert C. Burkhart, *Spontaneous and Deliberate Ways of Learning,* Scranton, Pa., International Textbook Company, 1958).

This information suggested that there were two different processes of work. One was conceptual and the other procedural. It was found experimentally that subjects could learn either general process.

A further advance came when I found, through a study of question patterns in the classroom, that student teachers who were rated as "creative" seemed to be asking questions of their pupils different from either "What" (conceptual) or "How" (procedural). This kind of question was later labeled *suppositional,* and was of the general order of "IF-we-do-thus-and-so, THEN-what-will-happen?" The student who asked this kind of question worked more frequently with symbols than with objects or procedures and appeared to alter both objects and procedures according to some suppositional modality.

When these findings were reported at the Greensboro Creativity Conference, Guilford and Torrance pointed out that symbolism as a separate factor in the structure of the intellect is distinctly different from the conceptual and procedural factors. *Conceptual* activities are conceived by them as largely *verbal,* and *procedural* as largely *figural.* They further agreed that *conceptual* activity is the basis for *fluency* and is predominately concrete — that is, reality-oriented. *Flexibility* is seen, especially by Torrance, as a *procedural* trait involving factors of *addition, subtraction, multiplication,* etc., which are the procedures needed if an object is to be altered or improved.

Suppositional activities, however, appear to be the basis for *originality* because they require shifts in *viewpoint,* or total reorganization and transformation of objects as concepts according to Guilford's factor analytic studies. On Guilford's and Torrance's tests the ability to ask suppositional questions or solve problems by generating a new viewpoint represented a higher level of intellectual activity than either conceptual or procedural thinking. My object-question test asked the subject to produce unusual viewpoints on concrete objects. A significant gain was made on this test by subjects who had previously been asked to generate criteria for their own work, suggesting that *evaluative activity strengthens suppositional thinking.* This latter test has been incorporated in his well-known battery of tests by Torrance, who supports the hypothesis that learning processes may be grouped into the four inquiry forms or systems introduced here.

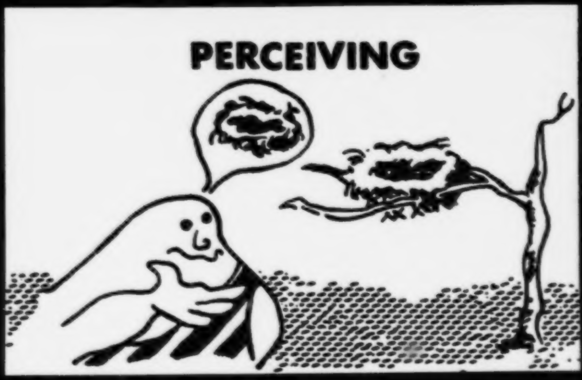
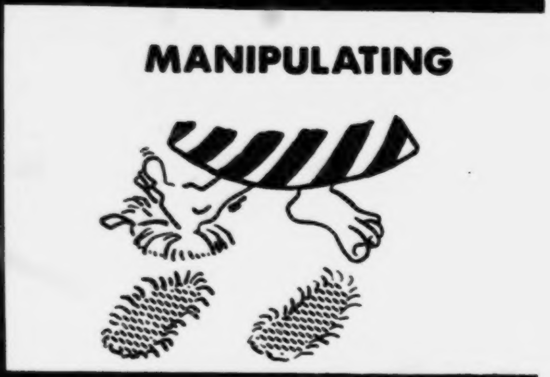
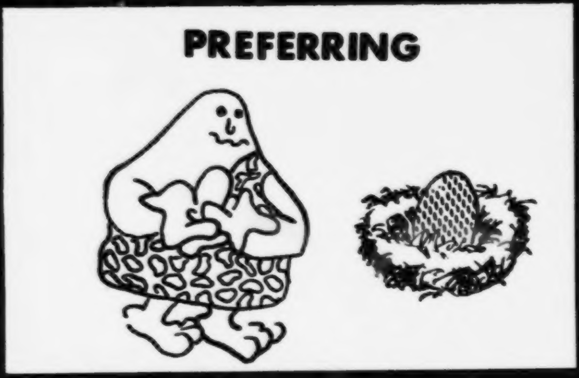
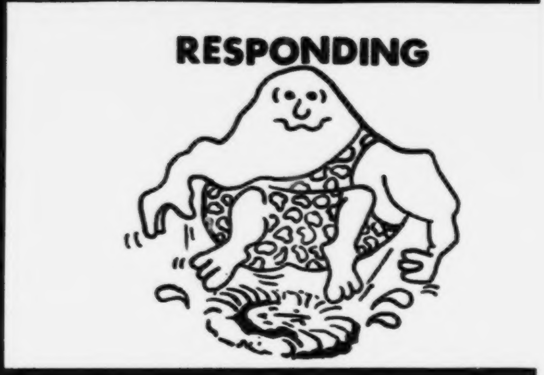
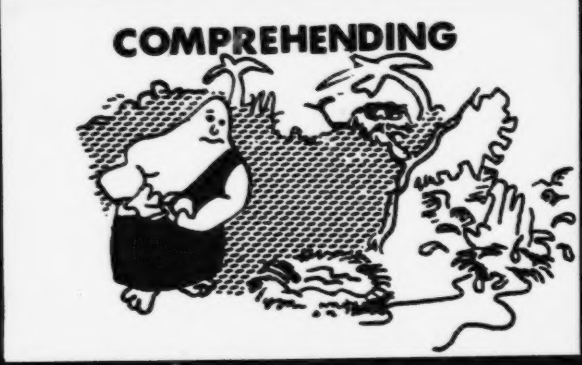
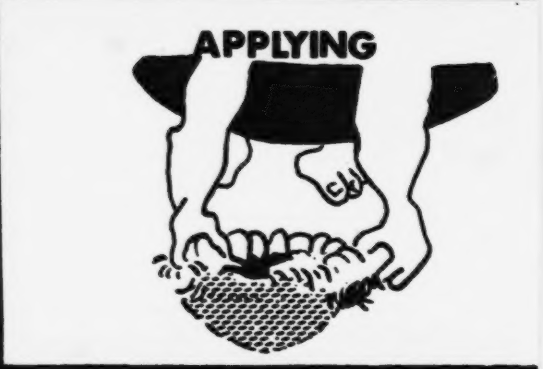
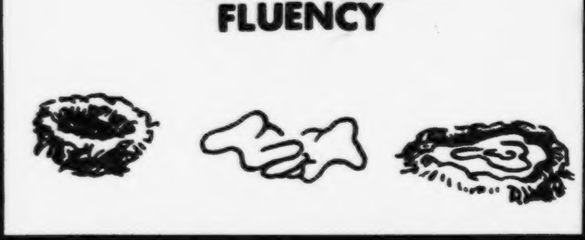
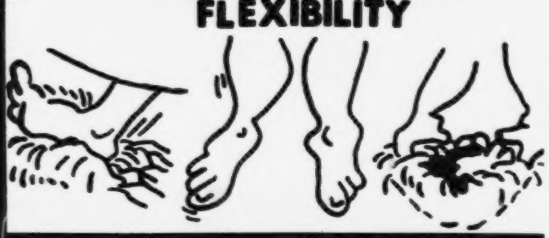
To date, only the evaluative modality has not been factorially distinguished from conceptual, procedural and suppositional. Further analysis is needed to determine if the formation of standards is a distinct mental process. It does seem to be a logical coadunation of the other three — an idea supported by the cognitive taxonomy.

FIRST ISSUE: WILL THIS STRUCTURING HELP DESTROY THE IMAGINATIVE IN LIFE?

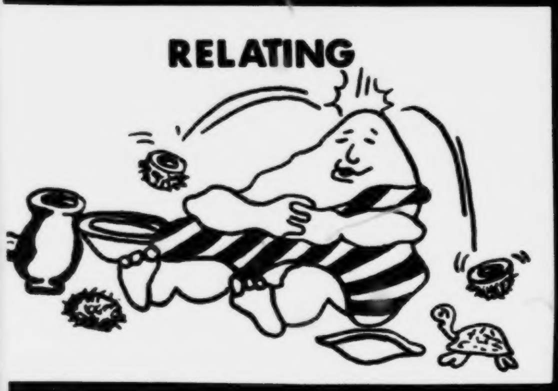
Jennings: I don't know whether this is a comment, but my immediate thought was "Good God, there's the layout for a lesson plan. Wednesday at four o'clock we're going to have *transforming.*" Look, the capacity for us in education to domesticate any problem, no matter what it is, is something that you can never write off. Remember our capacity to take things that we label innovative, for example, and tame the damn thing down to a house cat every time we are given a structure. "Build some safey devices into this," or rather, do something that we maybe ought to take from the military, "Put a destruct button there," so it doesn't get used to shrink up what little is left of the imaginative in life.

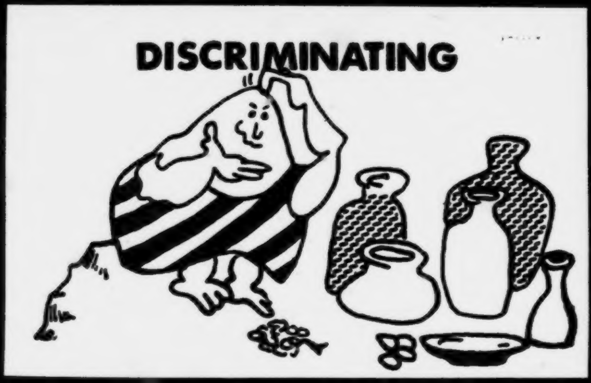
Burkhart: It is possible that just the opposite might occur; that is, a structure such as this might enable us to provide life-sized imaginative forms of education in the classrooms. In many classrooms now, almost none occurs. Imagination might be kept out because the average teacher does not understand how to structure it into his teaching, and perhaps we need to provide the structure that will permit him to help children learn to be more "creative." So, in answering your "expression of terror," I should like to give an explanation of the grid from the point of view of a caveman, in order to demonstrate that such a structure need not bind us. After this, I would like to meet your challenge more directly by considering what a couple of student teachers (not teachers) were able to do to introduce imagination into the classroom. They employed this grid as a means of structuring their lessons so as to promote imaginative inquiry for three- and four-year-olds.

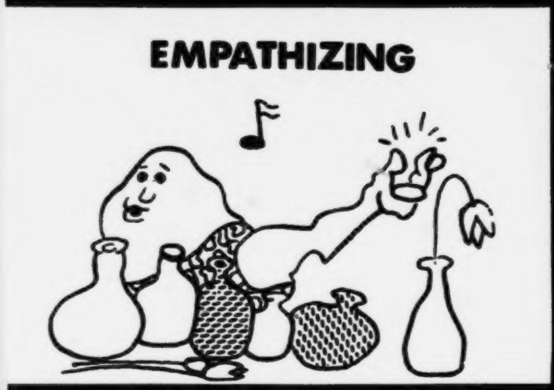
I'd like to follow through the grid using the pictures of the caveman, because seeing what his behaviors might have been helps us to visualize what kinds of behaviors may be appropriate to each cell in the grid. (I'm sure that he wouldn't have done all of these things if he had not had the grid available.)

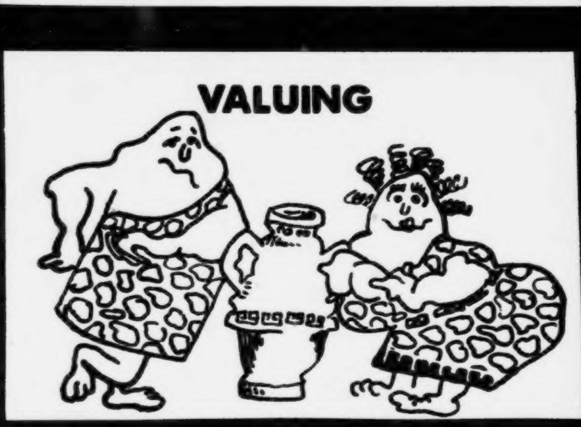
	Conceptual - WHAT	Procedural - HOW
SENSORY	 PERCEIVING	 MANIPULATING
AFFECTIVE	 PREFERRING	 RESPONDING
COGNITIVE	 COMPREHENDING	 APPLYING
	 NEW IDEAS FLUENCY	 NEW METHODS FLEXIBILITY

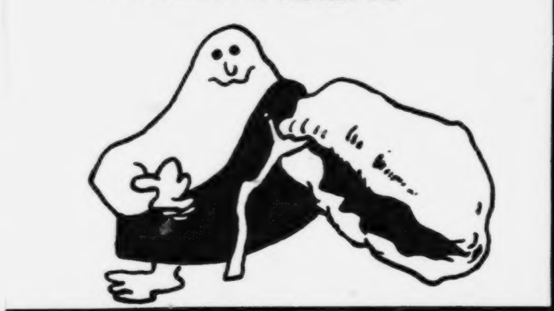
uppositional - IF Evaluative - WHY

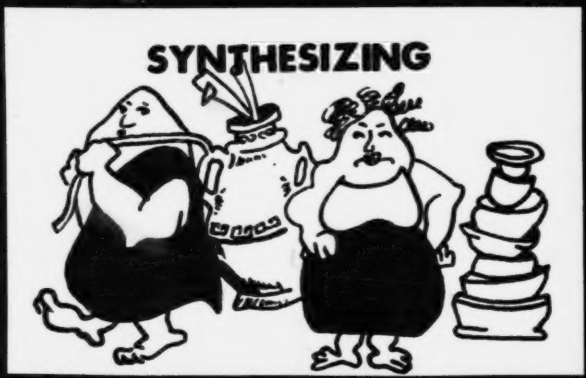


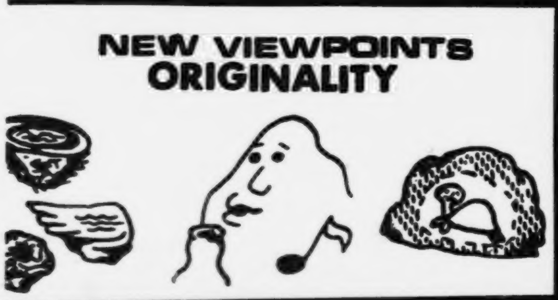

DISCRIMINATING

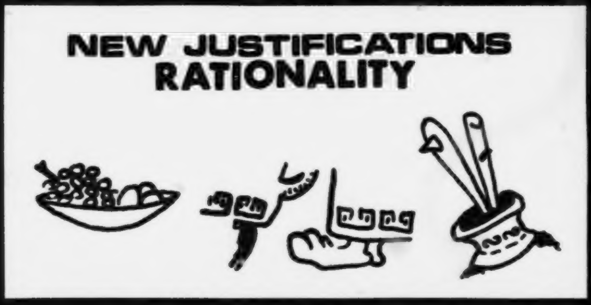

EMPATHIZING




TRANSFORMING


SYNTHESIZING


NEW VIEWPOINTS
ORIGINALITY


NEW JUSTIFICATIONS
RATIONALITY

A Journey Through the Grid

The first process to be considered is the "What" process, and in the first picture Nerd sees a bird's nest and thinks, "It's a bird's nest." He *identifies.* And then, you know, he thinks, "I'd like it better if eggs were in the nest," and so he states his preference. Then he has a sudden idea. "You know, there are other things like that besides the eggs. There are nests and things that hold water and you can drink from them . . . . " He *gets some concepts,* and he gets them from varying sources—from his sensory perception, his internal feelings, and his thinking capacity. If people stop at this point, there is a problem, because what they do is *know,* but they can't *do.* And so we come to the second column, where Nerd, being a little awkward, slips. He looks at where he has slipped in the mud and sees his footprint. He *manipulates* his body around and tries some other ways of doing things, and then he thinks, "By gosh, I can do a lot more with my feet than I thought. I'll make a hole." So, Nerd *responds* to his environment with a definite determination, and you can tell that he's a very feeling person and a happy sort of an animal. Because thinking comes to him every once in a while, he steps back and looks at his hole. "You know, I ought to do something with that hole. I think I'll make something out of it." And he starts to do this and then, of course, he *makes a pot.*

Now, an awful lot of our education is concerned with the "What" column, and some of our more practical forms of education are concerned with "How," column two. From employing these inquiry systems, we get fluent and flexible people.

But we don't think of creativity as just divergency, just the ability to ask a question that stimulates open responses. We see it as the ability to shift viewpoints (column three), to look at something as another person might, or as an *ant* might. Ideationally, Nerd is hard to get at, and it takes a little extra effort. In this case, a coconut has dropped on his head as he's sleeping, and upon waking, he finds that the coconut half is a kind of cup, too, and that there are other natural kinds of cups as well. He's now also recognized that a turtle's shell is *related* to cups. Next, he thinks, "I've gotten some pots, and I've made some pots. I note the pots have lips on them. I can make music with my lips. I wonder what it will feel like if our lips made music together." So he takes his flowers out, and he blows in the top of the pot to make them sing. Then he thinks that his pots can be used for things other than what he invented them for. "I'll see what I can catch." He doesn't catch much, only a turtle. He decides his pots are not so good a trap as he thought, but he *changed* or *transformed* his viewpoint toward the pots.

If you were all of these things, flexible, original and fluent, you might indiscriminately create a lot of results that you didn't want. You might lack direction and purpose, and I think that some teachers are all three of these things, but not the fourth. They are seldom *evaluative* about themselves and their pupils. Probably the major problem in education is to bring in bases for evaluation; evaluation is a different sort of thing and so we have an animal that has gotten away from us in the school system, and we're just getting enough courage to face this. Of course, *discrimination* on the chart makes Nerd look like he's asking, "What function shall I use this for" or "Where does this particular one fit on a size continuum?" In the next cell we see that Nerd's wife *values* that pot and even has its pattern on her skirt. Being a man and a brilliant problem-solver, Nerd decides that there must be *some other use* for that pot aside from having her look like it, so he puts his clubs in it, and off he goes. Let me just say this: empathizing, responding and preferring are general areas where inquiry really doesn't occur. It may be that a base for inquiry exists there, but we seem to collect a lot more statements about how you feel or how you react, than questions. When people start to evaluate things, they inquire; this is a very important process.

This is a kind of a simple explanation of dimensions of the intellect that have been developed here. They're relatively factor clean if you're just studying a mental operation on a test such as Guilford's, or specific types of behavior. They separate out and are unrelated, more or less, to each other, so it's very possible for a person to do some of these and not others. We find this a useful way of sorting behavior and language and a way of looking at curriculum, too. Now, let's turn to what Jay Seeley and Corrine Baitsell, two student teachers, did using this grid with two groups of nursery school children, and see if our gridding "takes things that we label innovative," for example, "and tame the damn thing down to house cat."

Jay: We worked with the Inquiry Process Grid trying to build lessons which would get some three-year-old children to ask questions. In this way, we hoped that they would show us their ability to inquire. (They all did ask questions, of course, but the difference here was whether or not they understood the abstract concept of what a question was, and the relationship between a question and an answer.) We tried several different approaches, and we really couldn't get all the children, maybe one or two of them, but not all, to consistently ask questions and understand the difference between questions and answers. I think our first breakthrough came when we worked with live animals.

Trapped and Released

I guess we'll start by taking a look at the pictures of what we call "The Trapped Moth Lesson." In this case, the moth was refrigerated for about ten or fifteen minutes before the lesson started, which kind of slowed down its metabolism a little bit so that we could handle it without having it fly off across the room. (See illustration 1.) It was quite alive. It was a little slow in reacting, but quite alive. When I assumed the role of the voice of the moth, it even moved its feet, and the kids just jumped all over. They asked so many questions that later we had trouble separating all of the questions from each other as we listened to the tape of the lesson. In a later lesson (see illustration 2), we used two moths. We had the moths talking to each other, and we got the children to take on the voice of a moth, one child speaking to another as a moth. Questions really started to occur. It seems that the children need to have some sort of background, something in order to get them to work with this grid in their own way by asking questions and inquiring.

Corrine: After they'd experienced the lesson with the moth, we decided that the children were able to ask and understand more complicated questions than simple things like, "What is it?" and, "How does it fly?" We wanted to find some way to get them to hit the suppositional and evaluative areas more completely. So Jay and I worked together to compose some kind of an atmosphere, a kind of a game that they would work with in these areas. The game was a set of complex role-playing interactions whereby we wanted the children to take the part of another person and become that person. We called it the "Another Person Game."

We had previously taken pictures of each of the children, which we made into little paper dolls. At the beginning of the lesson, there were several dolls hidden inside of the house (see illustration 3). They were quite surprised to see a doll of themselves, so this made the experience much more real to them. One of the players, a little girl, seemed more reserved than the rest of the children. We kind of worried about her, but she surprised us (see illustration 4).

When the children spoke as themselves, they held their doll in front of them and addressed it to the doll of the person they wanted to talk to. For example, Jay played the part of the "Sleepy Door Closer," who was a

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very strange character, and if they wished to ask him a question, their doll would ask the question of the "Sleepy Door Closer" doll. This seemed to give more animation to the situation (see illustration 5).

Kaplan: I don't know what questions you have on your mind, but you two must have spent an awful lot of time analyzing tapes, right?

Jay: Yes. This was our culminating lesson. It was the last one we had a chance to do, and it was based exclusively on what we had learned from analyzing tapes that we had worked with before. Without those tapes, we really wouldn't have had any background. The purpose of this lesson was to show that preschool-age children, even in small groups, are able to role-play. This introductory lesson was basically a fun type lesson. They didn't learn anything subject-matter-wise, but it was a type of test to see if role-playing could work. Instead of the beatnik type character, "Sleepy Door Closer," we could have played a policeman, or a crippled child. It could have been a serious type problem that they're working out.

All four children seemed to be quite able to take on the responsibility of another person's character with the help of visual aids of this type. They initiated their own change in character. There were times when we could have stepped right out of the room and it would have continued right on without us. (See photo illustration 6.) It was real role-playing, real role-reversal. They took the part of the teacher or they were themselves, and by seeing what the other children's concept of themselves was, they could tell more about what they were.

We weren't trying for any specific subject matter. We were testing our ability to navigate the children's inquiry into more advanced stages than they might be used to. This lesson gives children an ability to deal with their own problems on their own terms. We think we have enough respect for children as human beings to think that they are capable and should be given the opportunity to control the nature of their own education and their major tool for doing this is the inquiry process.

SECOND ISSUE: HAS THIS SYSTEM REALLY BEEN FULLY TESTED?

Hemphill: Well, I had one rather minor question of information. Has any other peer group worked with this same scheme, and what has been its experience if so, or is this just the case of the Indian that walked in single file?

Burkhart: We have graduated about one hundred student teachers a year who have worked in peer situations like Jay and Corrine, which would give us a total of some three hundred Indians I suppose over the last three years. We did an exhaustive study of twenty-two of these student teachers about a year ago, and I will try to review our findings for you.

A View of a Course of Student Teaching:

We were using a more difficult system then, composed of several kinds of feedback and analysis grids, several of which referred to the same four areas of inqury: "What," "How," "If/Then," and "Why" that you see here. These are summed up in the sections of the rating chart that our peers and supervisors used to estimate pupil and teacher learning during an eight-week period. Now when we started out we found that student teachers can learn to be evaluative about an awful lot more than they thought. They can distinguish pupil *achievement* from pupil *learning.*

A. PUPIL ACHIEVEMENT: QUALITY OF WORK. RATE FROM ZERO TO TEN.													
B. PUPIL LEARNING: PROGRESS, IMPROVEMENT OR GAINS IN FOLLOWING LESSONS. MARK ONLY FOR REPEATED LESSONS. RATE PLUS OR MINUS ZERO TO TEN.	+												
	−												

An awful lot of the things we do with our students is to ask, "Where does he stand in relation to the group?" We say, "He rates an A; He rates a D," and that is an *achievement* rating. "He can jump six feet; He can jump seven." This is an important distinction to make here, because that is different from learning. *Learning* is the capacity to *improve* performance. For instance, when I don't do well, say I can jump over a bar placed at a height of four feet, but knock it down when it is one-half foot higher. Learning is when I am able at another time to jump over the same bar when it is placed at five feet. An awful lot of our classroom activity is not geared to learning, so this is an important distinction for student teachers to make. They can rate pupil learning, and they can rate it on *criteria* or *objectives,* such as you, Dr. Hite, establish rather well for us. At least some of the student teachers can do this if the subject matter content is worked with closely enough so that the students can build an adequate framework of criteria for sorting out differences in pupil learning.

Now on this form, we also had the pupils evaluate the student teacher, and they are rather accurate, as you, Dr. Bown, mentioned several times. They give you pretty close assessments, and we think that this is part of the feedback that student teachers ought to have: how his pupils feel about him, how he did, whether the lesson is interesting, and whether he is making a contribution.

	0	1	2	3	4	5	6	7	8	9	10	gain
C. PUPIL ESTIMATE OF LESSON EFFECTIVENESS: RATE EACH ITEM FROM ZERO TO TEN.												
1. INTEREST IN LESSON.												
2. DIFFICULTY WITH ASSIGNMENT (NEG.)												
3. TEACHER CONTRIBUTIONS.												
4. PUPIL ORIGINALITY.												
TOTAL GAINS OF LESSON EFFECTIVENESS.												

The Teacher Sees Himself:

The student teacher needs to see himself, and to be able to think about his actions. This is another dimension of teacher behavior.

	0	1	2	3	4	5	6	7	8	9	10	gain
II. CLASSROOM BEHAVIOR A. TEACHER ACTIONS: HERE YOUR TOTAL FOR ALL THREE TYPES OF ACTIONS SHOULD NOT ADD UP TO BE MORE OR LESS THAN TEN, EACH AS A PER CENT OF YOUR LESSON.												
1. INTEGRATED ACTIONS												
2. ALTERNATING ACTIONS												
3. DISSOCIATED ACTIONS (NEGATIVE)												
TOTAL GAINS IN TEACHER ACTIONS												

If you know that you want to try to be very interesting, and you hear that you have been moving your feet nervously, and that you have been looking up at one particular object all of the time, you know that may be why you lost your audience. You could provide TV tapes to the student teachers for feedback purposes, but we did it in a different way. We had someone describe their actions on a tape recorder (partly because we didn't have money available for TV, but it worked). What happened was that they listened to the taped description, and they got impressions from their peer student teacher. They might hear: "Ah, he's scratching his earlobe again," or, "He looks nervous," or, "Here we go again, pacing to the front of the room and staying away from the kids." Well, you know what sort of thing they might hear, but when he hears it from his peer's voice, this gives a kind of coloration to the whole thing. It helps him to understand something he couldn't understand before, and he gets rid of some of these bad actions, or at least he has some test of his involvement which can readily be seen. Most young teachers can learn to integrate their actions and their talk, when we had set up a system by which they could evaluate this aspect of teaching.

Now, directly related to action is the inside man, that part which has to do with confidence, or fearfulness, or hesitance. These are hard dimensions to get at. The way we attacked it was to have student teachers listen to a tape of their lesson and, as they listened, to jot down whether they felt fearful, hesitant or confident. Then we had them simply write about what they were feeling at that time. It is important for them to know about their feeling state.

B. TEACHER ATTITUDES DURING INSTRUCTION: (SAME AS ABOVE)	0	1	2	3	4	5	6	7	8	9	10	gain
1. INNER CONFIDENCE												
2. HESITANT (NEGATIVE)												
3. FEARFULNESS (NEGATIVE)												
TOTAL GAINS IN ATTITUDES, INSTRUCTION												

Teachers do learn to become more confident, and they deal with their fears better as time goes on. I think that it is your point, Dr. Hite, that teachers in the beginning weeks aren't very good at this: they do drop things, and they do get frightened. It's an impressive struggle to watch, because there's an awful lot more fear to the teaching act than they had ever perceived.

We then moved to the area of teacher talk.

C. TEACHER TALK: RATE EACH ITEM ZERO THROUGH TEN.	0	1	2	3	4	5	6	7	8	9	10	gain
1. IF — SUPPOSITIONAL												
2. HOW — PROCEDURAL												
3. WHAT — CONCEPTUAL												
4. NOW — DIRECTIVE												
TOTAL GAINS IN TEACHER TALK												

Now I suppose that students don't really get a full diet of talk in their lives because we've mentioned many things about the structure of the college, and, for that matter, the structure of the classroom all the way up from their first experiences in the nursery school. We really can't expect them to have a full range of talk as beginning teachers. If they're lucky enough to have lived in suburbia, they may get a lot of "What" talk, or, if they have lived near a garage or gas station, they may hear a lot about "How" something is done. But you know, they don't get a lot of problem-solving talk, "If/then" talk, nor a lot of discussion of different viewpoints. When we talk about analogies and metaphors, we usually connect them with poetry; less often do we connect them with thinking. It's the ability to think in analogous terms that opens up problems for us. It allows us to think about the apple and gravity, or the carbon ring, as a snake swallowing its own tail. Without adequate preparation for thinking about things suppositionally, or . . . . what they might be like, if . . . . , student teachers cannot be expected to be original because we haven't exposed them to the root of imagination, which is the ability to see things in other ways. (You know, you kill fewer things if you feel like the thing that you are destroying.) We find, as illustrated in the case of Jay and Corrine, that when teachers start to open up suppositionally, the pupil opens up, and the act of teaching is very much more exciting.

Reasons for Looking

One of our concerns has been with the way in which the student teachers deal with the establishment of criteria in their classrooms, their criteria for the end-product. We've given them four areas in which we think they should develop criteria for the pupil. We ask them to state these criteria rather explicitly, because most lessons require a subject, a "What." Most ideas require a process, a "How" do you do it. Most methods for treating a subject require an interpretation or a viewpoint, and one of the reasons pupils in the schools don't learn is because the teacher doesn't supply a new viewpoint toward the handling of the subject matter under consideration. Finally, a lesson certainly requires a purpose and some reasoning about that purpose. These are the things for which teachers need to develop pupil criteria.

III. LESSON PLANNING A. PUPIL LEARNING CRITERIA: RATE EACH ITEM FROM ZERO TO TEN.	0	1	2	3	4	5	6	7	8	9	10	gain
1. WHAT — SUBJECT												
2. HOW — PROCESS, USE OF MEDIA												
3. IF — MOOD, IMAGE, INTERPRETATION												
4. WHY — PURPOSE OF PROBLEM												
TOTAL GAINS IN LESSON PLANNING												

Now those teachers who have "A's," you know, and who miss some classes because other classes are more important to them, those are the ones who can form those kinds of criteria, and on a more or less objective basis. (We looked at about 150 additional teachers after we did the first study.) Those teachers who have acquired a greater depth of learning in their content area were also able to establish those criteria. I don't think that we can stress strongly enough that subject matter proficiency is extremely important, not just knowledge, but also in *production abilities* within the content area. I think that a lot of a teacher's image depends on his depth of involvement in his content, and the extent to which he is really committed to his content area. He projects this in the classroom, and his students look at him with real respect. The teachers who did the poorest job for us, as a group, had grade point averages of 2.3 or lower (in a four point system). When we looked at them, we said, "Well, there's some really creative individuals in there, just lovely individuals, who are packing all of their energy into one area. Of the 150 people we looked at, only ten in this group had as many as five 'A's,' and a couple of those grades were in physical education courses. In other words, if you're good at nothing, it's probable that you will not be able to judge what you see as a teacher, nor what your pupils are doing."

The next part of the chart dealt with planning for variety in the kinds of statements made by the pupils.

B. PLANNING FOR VARIETY IN PUPIL STATEMENTS: RATE EACH ITEM FROM ZERO TO TEN.	0	1	2	3	4	5	6	7	8	9	10	gain
1. ORIENTATION												
2. PROBLEM												
3. PROCESS												
4. EVALUATION												
5. PREDICTION OF ACTUAL PUPIL RESPONSES												
TOTAL GAINS IN PLANNING FOR VARIETY												

That's "pupil initiative" in your terms, Don Medley. That's something the teacher can learn to do just as you mentioned. They can count the words. They can listen to the number of comments the pupil has made. They can do just as you said, Dr. Bown. They can say, "What was my trouble?" "I had my big fat mouth open all the time." And all you need is a tape (it's not a complicated feedback system), and to make them sit there and listen. They can probably gain some even greater insight if we from saying, "Now, you're Janet (their pupil) and you sit there and learn what Janet learned in our lesson and you only answer when she does."

All right. Now, one of the most interesting of our findings that came from this was related to the *teacher criteria,* that's criteria for themselves, and there seems to be a difference in the kind of disposition that people have about what they want. There are a number of people who don't want to look *bad,* but don't mind if they don't look *good.* So they make a lot of criteria that will get rid of the *bad,* but they don't worry about the *good.* There are some people who you know who don't want to look either *bad* or *good,* if they could just get to *average.* Our better teachers had a very strange problem. They listed things where they were *bad* in about as often as the other groups of teachers, but they had a lot more things they wanted to become *good* in. In the end, they got a lot of things that they were *good* in and they didn't get over some of their bad ones. If we focus our teaching system on curing problems as supervisors do, you know: "Stop stammering in front of people." And, "Look straight, sit up, and keep your desk in order or otherwise, you know, you aren't going to get through this system." And, "Walk out behind the pupils when they leave the room, otherwise somebody is going to dump something on the floor!" Well, now that kind of attitude probably won't create a better teacher. The better teacher is not so concerned with these negatives as he is with what he can achieve that has positive value. I think that this is an important thing to recognize viewpoints and stress.

Viewpoints and Stress

Also, you know, there's a difference in where people have their stresses. I think this is so closely related to Dr. Bown's study that it amazes me. The poorer teachers are worried about themselves. "What did they think of how I appeared?" and so on and so forth (and I think it was our fault that we put them there too early). We didn't really make an adequate assessment, as you would suggest to us, of what level of commitment they had. But they're deeply self-centered, so their stress is all about how other people are reacting to them. The better teachers also have a lot of stress, only it's all about what's happening to the pupil. So it takes a long time to make that giant step between being "conscious of you" and being "conscious of what others are acquiring from you." That is, I think, and I might firmly state that I personally believe that teacher education would be a lot further along if we did more careful analysis at this level and worked with them, so that they got over their concern with themselves and realized that they had something positive to add to someone else.

	0	1	2	3	4	5	6	7	8	9	10	gain
C. TEACHER LEARNING CRITERIA: RATE EACH ITEM FROM ZERO TO TEN.												
1. COMFORTABLE CRITERIA, TEACHER BUILDING												
2. UNCOMFORTABLE CRITERIA, TEACHER PROBLEM AREAS												
3. CRITERIA FOR IDENTIFICATION OF SELF WITH LESSON INVOLVEMENT												
4. AN APPLICABILITY, CRITERIA ARE JUDGEABLE BY OTHERS												
TOTAL GAINS IN LEARNING CRITERIA												

Now people who are lacking in confidence, have dissociated actions, can't estimate pupil work and can't create appropriate criteria for themselves as teachers, those kind of people are going to be defensive when you talk with them as a supervisor. And if you give them feedback, they may really hate you. Now you can tell them to stop this, but I would rather have them sit and listen to a tape of their attitudes and have them rate themselves. Our strongest area of findings was that people could designate the nature of their attitudes very quickly, and most people, when they start to learn, are defensive or prejudicial. They talk about what they like: "Well, I just don't like to do it that way," or "That's not appropriate for me, that's not the way that I feel about education." And they do a lot of this, but the better people get over it faster and are able to interact and share with others. I suppose that one of our major purposes of education is this capacity to share, and we think that this is a very important point in growth. We have to give people more feedback on their attitudes and capacities to share.

IV. EVALUATIVE INTERACTION **A. STUDENT-TEACHER REACTION TO OTHERS:** CATEGORIZE HIS TALK WITH OTHERS. HERE YOUR TOTALS FOR THE FOUR CATEGORIES SHOULD BE TEN, EACH AS A PERCENTAGE OF THE TOTAL DISCUSSION.	0	1	2	3	4	5	6	7	8	9	10	gain
1. CRITICAL DEFENSIVE—RIGHT, WRONG, AUTHORITY SAYS . . . (NEGATIVE)												
2. PRIVATE PREJUDICIAL—I LIKE, I DISLIKE, I FEEL (NEGATIVE)												
3. SHARED EVALUATIVE—INTERACTIVE EXAMINATION												
4. SIMPLE AGREEMENT—YES, OK												
TOTAL GAINS IN STUDENT-TEACHER REACTION TO OTHERS												

This is a dimension of teaching that I think we haven't thought enough about. I believe we have to talk about the quality and emotional tone that occurs between the person who's talking and the person who's learning.

Developing Other Viewpoints

And finally, there's an area in which we didn't do much. We just began to look into the cause and effect area. We wondered whether teachers were really ever able to analyze their own problems and identify them, and as far as we can see, it is usually the supervisor that does that. Then he gets his teacher to elaborate on that idea. So we have a long way to go in getting our college students to think about problems of any sort and talk about consequences in order to form any kind of hypothesis and set up alternative routes. If you were able to set up some arbitrary standards for what a college student should look like, somewhere in the educational system, you would need to build that into our prior training. Well, this system works. It's awfully hard work for everybody involved. For every one of those sub-categories there was an experience that you had to analyze, and then your work on that experience was rated on a form.

Developing an understanding of the values of the system was valuable to us. We found that teachers were stating their criteria rather clearly if they were reasonably good teachers, but they were teaching exercise in a very dull way (you know, just like their assignments had indicated), unless they had an in-depth sense of their purpose. This led us to get involved in trying to find out what was the underlying dimension that we were concerned about. What the content area was did not matter; the important thing was the way people learn and the way people inquire. So we built this grid. We built it intellectually, and we didn't think that it would be any good for classroom use; it was just good for our own understanding. Then some people started to use it in the classroom. Some of our staff started to make teachers use it to analyze their lesson plan. And then the Eastern Regional Institute for Education asked us to tell them what *Science—A Process Approach* looked like according to the grid.

ANALYSIS OF A SCIENCE PROGRAM BY THE INQUIRY PROCESS GRID*

The Inquiry Process grid was twice employed as an analytical tool to break down kinds of behavior as they have been designated by SAPA, so as to get some indication of its operational potential and distribution. One kind of data that lends itself to this sort of analysis is the kinds of questions employed in the SAPA competency measures. Using generic questions for each competency measure in Parts I-IV, an attempt was made to analyze the more than 100 activities by sorting each question under one of the headings on the grid. Each question was then sorted independently by three different judges.

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*NOTE: This analysis was done by R. C. Burkhart, J. R. Rogers, L. Jones, and M. A. Winger.

The results of this analysis indicate that the early grade levels, Parts I and II of SAPA, do indeed emphasize sensory activities, while Parts III and IV for the upper grades, concentrate on cognitive activities, especially those which relate to application activities. Reading down the column, SAPA would appear to be particularly strong in procedural learning, both in sensory and cognitive areas. Thus, SAPA would appear to be properly designated as a process approach.

A second exercise of this nature was employed to cross-validate this first descriptive examination of SAPA. The data employed for this investigation were those describing the lesson objectives for the program, as they appeared on the large chart of the SAPA curriculum hierarchy. Statements of the goals and objectives were sorted according to the grid categories. The analysis of objectives indicates SAPA to be more comprehensive as a program than its test suggests. For instance, its objectives indicate more relating-synthesizing than its test questions demonstrate.

The emphasis on questions is important in that they have two functions essential to learning. One, *they tend to determine the structure of the learning activity;* and two, *they provide a key to the testing of that activity.*

This analysis of questions calls attention to the kinds of learning activities to which the Inquiry Process Grid may make a contribution. The first for SAPA would be to strengthen the suppositional column. More objectives of SAPA might be provided in the sensory and cognitive areas in reference to relating and transforming, both of which depend on analogy as one route to originality. Since many major contributions of scientists stem from analagous thinking, further work in these two cells might complement SAPA.

Secondly, more work needs to be done in the affective domain. The connection between feeling like a scientist and the formation of scientific values needs to be developed so as to give more substance to these kinds of learning experiences, especially those related to developing some values for scientific discovery and thought.

The third concern is to explore ways for increasing evaluative controls (discriminating, valuing, synthesizing) in relation to each of the modes of consciousness. This means designing instruction activities which relate to the formation and application of standards.

If a school or institution is to redesign the progression of its classroom activities in order to achieve maximum effectiveness for the teacher and the learner, it requires a rational base from which to operate, with respect to the testing of the inclusiveness of its objectives and their statement in the form of key instructional questions.

COMPARISON OF TEST QUESTIONS AND LESSON OBJECTIVES DISTRIBUTION AS CURRICULUM COMPONENTS

	WHAT CONCEPTUAL	HOW PROCEDURAL	IF/THEN SUPPOSITIONAL	WHY EVALUATIONAL
SENSORY	Perceiving Questions — 13.3% Objectives — *none*	Manipulative Questions — 16.4% Objectives — 4.0%	Relating Questions — *none* Objectives — 9%	Discriminating Questions — 27% Objectives — 12%
AFFECTIVE	Receiving Questions — *none* Objectives — *none*	Responding Questions — *none* Objectives — *none*	Preferring Questions — *none* Objectives — *none*	Valuing Questions — *none* Objectives — *none*
COGNITIVE	Comprehending Questions — 13.3% Objectives — 39.0%	Applying Questions — 30% Objectives — 16%	Transforming Questions — *none* Objectives — 12%	Synthesizing Questions — *none* Objectives — 8%

THIRD ISSUE: DOES THE SYSTEM PROVIDE FOR *ON-THE-SPOT* SELF-CORRECTIVE ANALYSIS DURING INSTRUCTION?

Medley: (to Jay) Can I ask you a question? When you're teaching, do you find it easy and natural to say, "Well now, I'll ask a question in this cell," or, "Now the child is operating in this cell"? As you go along, do you perceive the behavior in these terms, or do you have to sit down with a tape afterwards to find out what happened?

Jay: I think the more we did it the better we got at it. We found quite a bit of consistency from day to day as we looked back from our first. We made corrections, and we changed, but it's a workable piece of material.

Burkhart: What I think he's asking now, Jay, is did your general impression of what the child was doing when you were there as a teacher, was that consistent with your evaluation? Are you always depending upon making an analysis afterwards?

Jay: I see what you mean. That's something that came with time. As beginning student teachers, I'd have to say no. Our immediate impressions weren't always the same as our analysis. As we worked, as we progressed further and further and did more teaching, I think the two things came closer together. Our immediate impressions were quite similar. We could predict, for instance, how the lesson would be gridded.

Medley: You mean, you could tell its pattern during instruction?

Jay: Yes.

Medley: I'm thinking of Dr. Hite's model for teaching, that cell in there which talks about (I don't know what your phrase was) getting feedback, student growth, student changes, and so on. I'm wondering about whether an instrument like this can be used only to get feedback the day after when you're planning the next lesson, or if you can get constant feedback during the lesson. I think, from what you're saying that you probably can use this practice.

Burkhart: Don, a further answer would be that those of us who are experienced teachers, and who have learned this system, think that we are using it for self-corrective purposes. Moreover, as supervisors, we are inclined to make these kinds of judgments on the spot, saying to a student teacher, "You didn't make any procedural statements during your lesson. Perhaps that's one reason why your pupils didn't expand upon the exciting suppositional idea which developed in the class. You didn't provide the means, the working methods." This kind of conversation frequently occurs directly after a lesson, and, when student teachers deviate from the structure of their lesson plans during the course of the lesson, they sometimes explain that they recognized the need for a particular kind of inquiry activity. (They're not always right about this, but one example might have looked like this.) The teacher might have seen that the pupils were working well, but within a limited range, because they appeared to have only one criteria in mind. So he introduces discussion about additional criteria which was not included in his lesson plan. Frequently, the format of the grid is used to identify needs according to gap areas during and after a lesson, and especially during development of a new lesson.

FOURTH ISSUE: DOES THE SYSTEM PROVIDE A MEANS OF *FILLING GAPS IN PUPIL NEEDS* WHERE THEY HAVE NO PREVIOUS EXPERIENCE?

Medley: This, of course, is the drama that I was trying to reach this morning, that this kind of tool can be extremely valuable in teaching teachers, in helping teachers improve, in helping teachers mold their behavior in the direction that they want to. This is what I was trying to get at. This is what it looked like when you sent the stuff to me. Let me say another thing. I was at a meeting about HEADSTART the other day, and they said to me that many of these children from disadvantaged backgrounds don't know how to fantasize, don't have the skill for fantasy play. Do you think that you could teach it to them this way? Is this what it is? These kids probably knew how to pretend when they came to school, how to role play, but I wonder if this kind of a game wouldn't be a useful device for teaching kids who didn't know this.

Jay: Well, I'll put it this way. We found a direct correlation between our teacher statements and actions, and where we'd get student actions and statements in the same cell. In the nursery program, I did a lot of this fantasy type work and made a lot of fantasy type statements, acted childish actually. We saw a difference between our observation of them in free play and their changes as we recorded them in our lessons. Yes.

Burkhart: A major function of the grid is that of *gap identification.* For example, in the case of the nursery school program, detailed observations of each child in the program were made both for his behavior and for his talk. Then, each distinct item of behavior was separated and categorized as to its location on the grid. In this way, each child's behavior could be analyzed, and grid areas where heavy concentrations of behavior existed could be identified as areas of strength, while areas in which there was little or no behavior noted were identified as gaps. Through several programs involving both individual and small group instruction, the children were encouraged to retain behaviors in strength areas and to include behaviors in gap areas. An interesting finding from this program was that the pupils' behavior paralleled that of their teachers'. That is, initially, the teachers assumed that the kinds of questions they asked would stimulate pupil behavior in desired areas. However, they found that the pupils would remain inside their strength areas until the teachers changed their own behavior to include those areas in which they wanted the children to perform. Apparently, the children needed a model of behavior and/or a feeling that this behavior would be acceptable in a classroom setting.

Our preschool program classes probably resemble many others. For instance, all children spent more time *reacting* than they did *comprehending;* most activity could be seen to fall in four areas of the grid: 1) perceiving, 2) manipulating, 3) reacting, 4) preferring. These four words may be thought of as descriptive of the word "child."* These kinds of activity aren't, of course, structured to promote fantasy or to fill cognitive kinds of gap areas which disadvantaged children also possess.

The need for individual instruction became apparent when we tried to shift our instructional format from that in the classroom to one which stressed evaluative and cognitive activity. Our preconception had been that this could be achieved by engaging children in inquiry games. However, we found a distinct difference between children in their capacity to ask the questions essential to playing these games. The critical point here is that unless children can ask questions, they are unable to participate in and control the nature of their own education. If they don't learn this process early, they will probably not have a chance later in a school system in which the teacher does the questioning and the pupils the answering. Eventually, we hope that inquiry training of new and in-service teachers will help to change this pattern. We needed to know how many children could ask questions, so we taught a series of analysis lessons. In these individual sessions our student teachers emphasized *perceiving, comprehending,* and *applying* in the attempt to determine children's understanding and control over their questioning activities. We found also that the children differed widely in this capacity. Our

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***NOTE:** Individual Inquiry Process Distribution Grid at conclusion of chapter for specific examples of children's behavior within these processes. Pages 249-50.

most important finding was again unexpected. They responded in inquiry areas parallel to the teacher's emphasis. When the teacher stressed *perceiving, compresending,* and *applying,* the children's responses fell predominately in these areas and no others. This paralleling activity is evident in all lessons regardless of format. Its significance is that the teacher is the determiner of the area of concentration or inquiry, and her pattern will, we believe, be followed faithfully by the pupils regardless of their differences in capacity. This finding needs further research and cross-validation, but it may constitute one of the few stable cause-effect kinds of information that we can use and rely upon.

We also found that after analyzing their instructional format, teachers can plan for new areas of concentration. After the *Analysis Lessons* to determine their questioning capacities, the pupils needed stimulation and instruction which resulted in increased questioning on their part. This was done by using objects on which faces were painted so that they might question a seashell, or an egg (for whom the teacher responded) as to its experiences. Two eggs were used — one cracked and one whole. The children empathized with the cracked one and asked what had happened. This resulted in three entirely new areas of inquiry — *empathizing, relating,* and *valuing.* Again, the teachers' areas of concentration were strikingly correlated with the students'. The analysis of these second individual instructional sessions shows that the same teacher *can* change instructional formats and that these changes in format can also be made by the pupils.

The grid was used here not simply to analyze pupil and teacher inquiry activity, but to determine the inclusiveness of the curriculum offered. Altogether, five different formats of instruction were observed and analyzed for pupils and teachers involved in testing out the curriculum distribution of these inquiry processes. None of these five formats could be thought of as providing a sufficient range of educational experiences for the pupils as a constant diet. The widest in range of response involved use of a live subject and resulted in inquiry activity in five areas. The more limited ones resulted in inquiry in three areas. Children need instruction in all areas. By using diverse formats, all but two areas of the grid become areas of concentrated activity. Discriminating and synthesizing experiences were still not provided. They could have been with other lesson designs. What does seem to be evident is that a wide range of different lesson formats need to be employed by the teacher. This preliminary investigation shows that this can be done.

ANALYSIS OF CURRICULUM RANGE BY INSTRUCTIONAL DISTRIBUTIONS OF INQUIRY PROCESSES

	Conceptual	Procedural	Suppositional	Evaluative
One: Classroom activity (Pupil analysis only)				
Sensory	Perceiving	Manipulating		
Affective		Reacting	Preferring	
Two: Analysis Sessions (Teacher and pupil analysis)				
Sensory	Perceiving			
Cognitive	Comprehending	Applying		
Three: Animating Objects (Teacher and pupil analysis)				
Sensory			Relating	
Affective	Empathizing			Valuing
*Four: A Live Subject (Teacher and pupil analysis)				
Sensory	Perceiving			
Affective			Preferring	Valuing
Cognitive		Applying	Transforming	
Five: Role Playing with Dolls (Teacher and pupil analysis)				
Sensory	Perceiving	Many teacher control directives		
Affective		Reacting	Preferring	Many teacher praise statements
Cognitive			Transforming	

***These two forms of instruction resulted in a high question response for most pupils. Nearly 50 percent of pupil responses were in the form of questions.**

FIFTH ISSUE: DOES A SYSTEM SUCH AS THIS HELP YOU LEARN ANYTHING ABOUT YOUR OWN IDENTITY AS A TEACHER?

Kaplan: What do you know about yourself, now that you've been through this process, that you didn't know before? (asked to Jay)

Jay: Well, someone was talking earlier about personal style. Now, as a person, my style of living is something that I do from day to day, but I don't think that I'd ever gotten the opportunity to carry this living over into teaching, and it's something that's kind of strange. When you begin student teaching, you start with an image, rather than with yourself, and this is what was a little different in this case and much better. Instead of starting with an image, I started with myself. As to style when I'm teaching lessons like this, for instance: I was crawling on the floor and animating objects, and I used a lot of fantasy. My vocabulary at times became very similar to the three-year-olds! Now, I wasn't threatened. My style as a person became the same style that I had as a teacher, and this idea had never occurred to me before we got into this research situation. There weren't predetermined answers. We didn't have the feeling that Dr. Burkhart knew what the answer was before we started, and that was important to us as teachers and as people.

Bown: I'm sort of fascinated, Jay, by some of your remarks that indicate that you were aware, or conscious, that you were trying to fit yourself as a person into the role of yourself as a teacher, or whatever you are in this particular situation. Did I understand you correctly? Is this something that you were conscious of when you were in the three and four-year-old deal?

Jay: Yes. I don't know what it is. It's kind of an image you get. This is my second situation in student teaching, and you get an image.

Bown: Where do you get this?

Jay: Probably it's a combination from the fifth grade teacher you liked when you were in primary school . . . .

Bown: Oh, this is your mental picture of what a good teacher's like?

Jay: . . . your methods courses, and as you begin to teach, your critic teacher. And quite often that image shouldn't be important.

Bown: Now, you saw yourself as being . . . .

Jay: . . . . a person first. Yes. It is a very reflective type process.

Medley: I think it's because you got the process out there and were looking at it and not at yourself, that you could make this rapid progress to a more mature level.

INQUIRY

	Conceptual (What)		Procedural (How)	
	CONVERGENT	DIVERGENT	CONVERGENT	DIVERGENT
	PERCEIVING		MANIPULATING	
SENSORY	GENERIC QUESTION: What is that called? FUNCTION: Stimulus Identification *What is the color of that block?* (yellow) Name this act. (shaking hands)	GENERIC QUESTION: What else could it be called? FUNCTION: Fluency in Identificatio *What other things are this color?* (sun) What other acts mean the same thing? (hug)	GENERIC QUESTION: How do you do that? FUNCTION: Step by Step Analysis *Put the stripes in order of length from longest to shortest.* Describe how to shake hands. What color do you mix with red to create orange?	GENERIC QUESTION: How many ways can you think of to do that? FUNCTION: Flexibility in Anaylsis What other orders can yo make? How do you make a friend What other ways can you combine colors without mixing them? (overlapin pointilism, etc.)
	EMPATHIZING		RESPONDING	
AFFECTIVE	GENERIC QUESTION: What sensation does that give you? FUNCTION: Sensation Identification How uo you feel upon hearing the screech of chalk on the board? How do you feel when a friend hugs you? Does yellow make you feel warm or cold?	GENERIC QUESTION: What else might give you that sensation? FUNCTION: Fluency of Sensation Identification What other things make you feel like the screech of c chalk on the chalkboard? What else makes you feel like having a friend hug you? What other colors make you feel the same way?	GENERIC QUESTION: What is your reaction? FUNCTION: Recognition of Response As the chalk moves over the board do you respond favorable or unfavorably? How would you feel as your friend tore up your photograph? If a yellow street light flashed purple would you feel like stopping or going?	GENERIC QUESTION: What else might give y this reaction? FUNCTION: Conceiving of Alternative Responses What would be some other feeling you might associate with the screech of chalk on a board? What would be some other responses? How would you feel if al the yellow in the world were turning brown?
	COMPREHENDING		APPLYING	
COGNITIVE	GENERIC QUESTION: What is its nature? FUNCTION: Structural Identification *How many rectangles are in the animal figure?* What is the quality most essential to friendship between nations? Can you use the spectrum to identify different yellows? (Munsel color system)	GENERIC QUESTION: What other things might be part of its nature? FUNCTION: Fluency in Structural Identification What other figures can you make with these rectangles? What sociological, geological, religious, historical and economical factors might contribute to friendship? What other systems can you identify for ordering colors?	GENERIC QUESTION: How does that operate FUNCTION: Operational Analysis *What changes took place in this toasted marshmellow?* What common needs are necessary for friendship between the United States and France? Apply the words warm and cold to the color blue.	GENERIC QUESTION: What operational syste might that suggest? FUNCTION: Generating Operations In what other ways could this marshmellow be changed? Can you apply these factors to your own friendships? What ways can color infl ence the atmosphere of a small cramped room?

FLUENCY	FLEXIBILITY

PROCESS

Suppositional (If)		Evaluative (Why)		
CONVERGENT	DIVERGENT	CONVERGENT	DIVERGENT	
RELATING		**DISCRIMINATING**		
NERIC QUESTION: What is the similarity? NCTION: Analogy hat is related to grass s red is related to blood? hen Eskimos meet how do ney say hello? ince yellow is warm what olors are cool?	GENERIC QUESTION: Of what new viewpoints can you think? FUNCTION: Uniqueness of Viewpoints by Analogies What analogy can you draw to the relationship of grains to sand? If you were an animal what would you do to show your friendship? If yellow is heat to the sun what is it to music?	GENERIC QUESTION: Which is which? FUNCTION: Identifying Standards *Which angle is larger than a right angle?* What is the difference between an acquaintance and a good friend? Given a yellow-green continuum, where does green begin?	GENERIC QUESTION: What else is? FUNCTION: Creating New Standards What other ways can you sort angles? What qualities do you look for in a friend? What are the differences between the yellows that you smell and the yellows that you taste?	**SENSORY**
PREFERRING		**VALUING**		
ERIC QUESTION: If this changed how would your feelings change? CTION: Analogous Preferences soft drinks smelled ke amonia would you pre- r milk? your friend were older an you would you like m? all men were purple d you were the color u are now, would you oose to become purple remain as you are?	GENERIC QUESTION: What new viewpoint do you prefer? FUNCTION: Uniqueness of Preferences by Analogies If a soft drink tasted like a blizzard in what room would you prefer to drink it? Suppose your best friend became your teacher, what kind of student would you be? If you changed yellow into orange, what new ways would you feel about orange?	GENERIC QUESTION: Why do you like that? FUNCTION: Acceptance of a Value Why do you prefer sweet to bitter? On the basis of what feelings do you judge a friendship? Why would you eat a yellow banana and not a green one?	GENERIC QUESTION: What new reasons can you name for liking that? FUNCTION: Conceptualization of Values What kind of sweet can you name that adults might like and children would not? When you become ten years older what do you think will be important considerations for choosing a friend? Why would you choose yellow clothing?	**AFFECTIVE**
TRANSFORMING		**SYNTHESIZING**		
ERIC QUESTION: What else can stand for that? TION: Conversions by Analogies at other words mean the me as this word? there a parallel that ght be drawn between a iendship and a saleable oduct? en color becomes related courage what connotation es yellow take on?	GENERIC QUESTION: What symbols could stand for that? FUNCTION: Formulating Change Catagories by Analogies What code can you make that would stand for these words? If your friend became a Negro tomorrow, how would it change him? How could you write a musical score using color principles?	GENERIC QUESTION: What is an alternate viewpoint to the problem? FUNCTION: Formation of More Inclusive Principles State a principle that will explain how a marshmellow changes under the influence of heat or pressure. What is the most precise single measure of friendship? What is the purpose of adding yellow to gray?	GENERIC QUESTION: What is a more inclusive viewpoint to the problem? FUNCTION: Generation of New Principles as Theories What are some principles of communication other than language which might be important to friendship? On a basis other than parrity, on what might friendship be founded? Are there some principles that relate cool to warm colors?	**COGNITIVE**
ORIGINALITY		**RATIONALITY**		

PROCES

	CONCEPTUAL: "WHAT?"	PROCEDURAL: "HOW?"
SENSORY	Perceiving Generic Question: "What is the name?" Function: Denotation Process: To recognize (strategy) through the senses of hearing, touch, taste, or smell so as to identify (task). Row: Sense, observe, notice, listen Column: Identify, label, name, state Example: By listening (strategy) can you tell me this note's name (task)?	Doing Generic Question: "How can I do that?" Function: Action Process: To experiment (strategy) in different ways of handling (task) something. Row: Explore, search, experiment, try out Column: Do, perform, handle, acquire Example: By exploring (strategy) ways of playing this note, how can you perform (task) it?
AFFECTIVE	Preferring Generic Question: "What do I like?" Function: Connotation Process: To like (task) or be pleased by or find agreeable to ones feelings (strategy). Row: Feel, react, respond, affect Column: Like, favor, desire, pleased by Example: Do you like (task) the feeling (strategy) of that song?	Influencing Generic Question: "How can I motivate?" Function: Causation Process: To cause or control (task) oneself or another to do something by some motivation (strategy). Row: Persuade, induce, convince motivate Column: Cause, control, guide, effect Example: How would you persuade (strategy) someone through song to get them to follow your guidance (task)?
COGNITIVE	Comprehending Generic Question: "What will describe that?" Function: Attribution Process: To characterize (strategy) something in order to describe it (task) by its main qualities. Row: Outline, summarize, condense, characterize Column: Attribute, describe, realize, assign Example: "What qualities ought to be attributed (task) to that in summarizing (strategy) this music?	Applying Generic Question: "How does it function?" Function: Operation Process: To utilize (strategy) principles practically and specifically so as to make them operative (task). Row: Utilize, implement, employ, incorporate Column: Operate, function, work, produce Example: How are the principles of harmony to be incorporated (strategy) into music that produces (task) relaxation?
	FLUENCY IN IDEAS	FLEXIBILITY IN METHODS

NQUIRY GRID

SUPPOSITIONAL: "IF/THEN?"

Relating

Generic Question: "If these are related then?"

Function: Association

Process: To show a connection (task) between subjects by simplifying (strategy) them to their commonalities.

Row: Simplify, reduce, eliminate, sift-out

Column: Connect, relate, associate, correlate

Example: Can you sift-out (strategy) a quality like tone or pitch by which these two notes can be associated (task)?

Empathizing

Generic Question: "If I felt as it did then?"

Function: Personification

Process: To assume (strategy) the attitudes of other persons or things so as to envisage (task) experience from their viewpoint.

Row: Assume, identify with, feel as if, internalize

Column: Envisage, envision, role-play, personify

Example: If you felt as if (strategy) you were going mad then how would you envision (task) her singing?

Transforming

Generic Question: "If it signifies this then?"

Function: Interpretation

Process: To symbolize (strategy) the outward appearance of something for purposes of interpretation (task).

Row: Symbolize, abstract, idealize, translate

Column: Signify, mean, interpret, elucidate

Example: Musically what viewpoint can you establish to translate (strategy) into sound the significance (task) of highway slaughter?

IMAGINATION IN VIEWPOINTS

QUALITATIVE: "WHICH?"

Discriminating

Generic Question: "Which is which?"

Function: Differentiation

Process: To separate (strategy) subjects which are in other ways similar by making distinctions (task).

Row: Separate, unmatch, divide, part

Column: Distinguish, dissociate, differentiate, contrast

Example: Can you unmatch (strategy) these two notes so as to dissociate (task) them?

Appreciating

Generic Question: "Which is enjoyable?"

Function: Admiration

Process: To express (strategy) enjoyment (task) os something which has personal affect.

Row: Express, reveal, show, convey

Column: Enjoy, admire, approve, respect

Example: What way can you reveal (strategy) your admiration (task) through your singing?

Analysis

Generic Question: "Which is essential?"

Function: Explanation

Process: To examine (strategy) by separating into parts for a specified purpose in order to reach a conclusion (task).

Row: Examine, investigate, research, test

Column: Explain, diagnose, answer, conclude

Example: What research (strategy) on pupular music would you do to explain (task) today's youth's sexual attitudes?

CLARITY IN RELATIONSHIPS

EVALUATIVE: "WHY/BECAUSE"

Scaling

Generic Question: "Why is it more?"

Function: Progression

Process: To arrange in a graduated (strategy) order by rank (task) according to a rational of size, importance, etc.

Row: Graduate, subdivide, escalate, serialize

Column: Scale, rank, continuum, progression

Example:

notes in an escalating (strategy) interval as a scale (task) according to pitch?

Valuing

Generic Question: "Why is it important?"

Function: Decision

Process: To establish (task) a rationale by which to criticize (strategy) the value of something.

Row: Criticize, weigh, consider, review

Column: Estimate, appraise, judge, assess

Example: Can you appraise (task) this song by reviewing (strategy) it for originality and aptness?

Synthesizing

Generic Question: "Why is it combinable?"

Function: Formulation

Process: To use deductive (strategy) reasoning from isloated parts to formulate (tast) a more inclusive unit.

Row: Include, involve, deduce, combine

Column: Formulate, design, evolve, encompass

Example: How would you combine (strategy) popular music with classical music in designing (task) a religious mass?

RATIONALITY IN JUDGMENTS

CONCLUSION

Lierheimer: I would like to follow up on something that Don started a while ago this afternoon, and this is that I'm beginning to sense a relationship here between what's been said here, what Herb Hite brought out, and again what Don was getting at earlier. I wonder if we could hear from you people again to see if there is any mixture and fit here.

Andrews: Go ahead.

Hite: Well, Medley and I, and he was saying to me, and I heartily concurred, that this approach, this griding . . . .

Jay: That's a slang term.

Medley: Well, it says something. It is very compatible with what I was saying (or I thought I was saying, and if he thought so, it must have been). That really, you are looking for evidence of what you consider the appropriate behavior to be, or appropriate kinds of learning. And by looking at this evidence, you then, you know, arrive at what you believe the appropriate teaching strategy is. And I think you go beyond what I was saying, in some ways.

Lierheimer: Would you define as a teacher a person who is able to look at a group through a grid and analyze it?

Hite: Yes. Through several of them, Al. He uses a whole bunch of them.

a model for performance evaluation certification

herbert hite

6

A MODEL FOR PERFORMANCE EVALUATION CERTIFICATION

> "But I don't think all that's learned is taught, and that's very obvious, but inasmuch as we teach, we have purpose, and I think that without purpose you don't have teaching. The object, then, is for teachers to define the evidence that they'll accept that learning has taken place, and then to arrange matters so that the individual learner does demonstrate this evidence."
>
> Herbert Hite
> Washington State University

One: Is what traditionally has been considered essential to teacher learning really essential ?

Two: Is Performance Certification practical now ?

Three: What are the pupil costs for Performance Certification of student teachers ?

A MODEL FOR PERFORMANCE CERTIFICATION

HERBERT HITE, Washington State University

I'd like to discuss rather informally why I think the way I do. Secondly, if we have time and your interest survives, I'd like to go through an instructional system designed for teachers in order to illustrate what it is that I'm trying to explain. Then I'd be most interested in discussing Dr. Lierheimer's proposal, because in the State of Washington, where I come from, the ideas in this challenge are ones that we seem to be prepared to accept and incorporate into a program of certification.

How can we demonstrate that "teaching" has occurred?

I'm ready to start with some very simple ideas. Maybe my paper makes me sound as if I'm very scientific; I wish that were true. Like Medley, I believe that the great hope for the education of teachers, who will in turn bring about the education of the pupils, is that we must be more scientific. But I come to this point of view from a humanistic approach. What I'm really after is that the learner should be successful in school because of the teaching which occurs there. That's the idea. The object of teaching, then, is to bring about learning. If this is true, then when we train teachers, the teachers should demonstrate learning, and, when they teach pupils, the pupils should demonstrate learning. It should happen to us, too; we should profit from the experience. I think that this is not exactly what we, the trainers of teachers, do now. We don't really act as if we believe that the object of teaching is learning. I know that when I look at my own past as a teacher, I have often acted as if the object of teaching were classification of the pupils, or to have so many seats filled for so many timed periods, at the end of which we had "educated" people. In proceeding from the base that the object of teaching is learning, *the teachers first have to define what it is that they'll accept as evidence that the learning they want to bring about has occurred*. They have to describe that. This isn't a very bright idea. It's a very simple, commonly accepted idea — to be able to describe what it is that the learner will be doing when you're satisfied that he's learning. All that remains is to arrange the resources that you have — the media, the environment, the organization, the other learners — in such a way that the individual learner demonstrates and practices this desirable behavior.

Now, it would be very helpful to me if you folks would let me use that word, behavior. It turns a lot of people off (and I know it doesn't do that for everybody, and that probably most of those people aren't here.) By behavior, I really mean everything that the learner is capable of doing: perceiving, feeling, sensing, being aware. All of this, in my view, is behavior. It's not just something manipulative. On the other hand, the evidence of this behavior has to be overt; you have to be able to perceive it, even though overt behavior is only symbolic of total behavior. We want people to be secure, let's say. Well, what evidence do we accept that they are secure? The evidence that you can observe is not the total behavior, obviously.

Another ground rule here for this discussion: I think learning is a change of behavior, and learning which is taught is learning for a particular purpose. It's a change of behavior in an appropriate direction, a decided direction. But I don't think all that's learned is taught. Inasmuch as we teach, we have purpose, and without that purpose behind it, you don't have teaching. The object, then, is for the teachers to define the evidence that they'll accept as proof that this learning has taken place, and then to arrange matters so that the individual learner does demonstrate this evidence.

How does a teacher teach?

Now, applied to teacher education, one way to proceed is to examine the evidence that Medley has talked about. What is it that the teacher does that makes any difference at all when you look at change in the pupil? What seems to be associated with changes in pupil behavior? The behavior which elicits some kind of appropriate change in pupil behavior, then, is the kind of behavior that the teacher should demonstrate. Now, that isn't all that teachers do; teachers do lots of things. But this is the goal of the teacher in the particular role of instructional manager. I'd like to try to illustrate this role for just a minute. How would we define what it is that a teacher should do, and, hence, how should we define the objectives of a teacher education program? Taking this one role, the role of instructional manager, we may say that this role can be characterized by one large statement: *the effective instructional manager brings about or elicits appropriate changes in the behavior of the learner.* The next problem is to break down into what it is that this behavior is made up of.

What do you do when you elicit appropriate change? The way this question was analyzed was to have a group of people look at the literature, and then a team made some determinations. I'm not really arguing for these determinations, I'm merely arguing for this way of making decisions. From the literature, the group assumed that there were seven kinds of behavior that teachers performed when, in fact, they were bringing about appropriate change. They:

1) Defined objectives.
2) Adjusted those objectives in terms of the individual learner.
3) Selected appropriate strategy for implementing those objectives.
4) Organized the learning environment, including the children.
5) Interacted with pupils to bring about achievement of these objectives.
6) Evaluated the change.
7) Defined the next step.

Now those are pretty gross kinds of behavior. These in turn, then, may be broken down into the following components:

1) For defines objectives:
    a. States objectives in operational terms
    b. Justifies the choice of a particular objective
2) For adjusts objectives for individual learners' requirements:
    a. Determines prerequisites for the objective
    b. Devises alternate objectives for different learners according to the prerequisites they possess for the task
3) For selectes instructional strategies:
    a. Selects media appropriate to objective
    b. Selects learning activities appropriate to objective
4) For organizes learning environment:
    a. Defines a sequence of activities
    b. Manipulates the physical elements of the environment to fit the planned activities
5) For interacts with pupils:
    a. Elicits responses from learners
    b. Reinforces responses of learners appropriately
6) For evaluates growth:
    a. Appraises changes in behavior
    b. Provides learners with knowledge of the results of their behavior

7) For defines next step:
   a. Re-cycles so that learners may improve
   b. Defines next objective.

Each of these components happens to break out into two pieces. To define objectives, for instance, consisted of the ability to state them operationally, and the second part was to be able to justify the objectives in terms of the usual types of screens for objectives, and so on. This process gave us thirteen or fourteen different breakouts of this total behavior that we call instructional management.

Three ways of judging what a teacher does in the act of teaching

Once we have defined the kinds of things that we want teachers to demonstrate, we give them an opportunity to do so, perhaps under laboratory conditions and later under field conditions. But they always demonstrate with reference to at least three classes of conditions. One is content. The second is the type of learner outcome, whether it's cognitive, affective, or a combination of these. The third concerns particular learner characteristics. It is impossible to imagine an objective or a behavior of a teacher which does not have reference to these three kinds of conditions, and this makes the evaluation job a complicated one. Up to this point, I think that the job of deciding whether or not students of teaching have demonstrated learning is not too difficult. We can assess whether they have in fact demonstrated the technical requirements, that they have defined objectives behaviorally, let's say. But whether *what* they have defined (behaviorally, technically, expertly) is appropriate, you see, involves perhaps three other judges. One judge who is adequate in the area of content; another in the area of learner outcomes (perhaps a psychologist or educational psychologist); the third, an individual who really knows the youngsters for whom it's intended. Now, in practice, although it sounds very complex, this is what teachers really do. They do, in fact, carry out certain kinds of behaviors which they hope will bring about changes in pupils.

FIRST ISSUE: IS WHAT TRADITIONALLY HAS BEEN CONSIDERED ESSENTIAL TO TEACHER LEARNING REALLY ESSENTIAL?

Burkhart: Do you remember you're saying that you had worked some things out which you thought needed to be done by this system? Then at the end, you couldn't secure one of the things you found to be most satisfying to you as a teacher — the lectures. Could you sort of give us an example of that? That is, why is it that these things we have ordinarily come to think of as essential to teaching really aren't essential to learning and to teacher behavior?

Hite: Well, you see, that works out quite simply. If you really do work from the idea that the learner is supposed to demonstrate success, you have to adjust to the pace at which this learner proceeds. You also have to supply different amounts and different kinds of strategies for different learners. Really, to me, it's just a simple matter of redundancy of experience; they have to have the opportunity for more or less practice. So after about the second day of the semester, no two of these twenty-eight kids* were ready for the same thing at any point. So there really isn't any opportunity to give a lecture, because there's never more than one person who's prepared for that particular bit of information. I think I can answer Burkhart's question more directly by running through an explanation of what the students do in a system.

For example, in the first task requiring our students to interact with young children, the nature of this task was to communicate an assignment problem to the pupils in such a way as to accomplish two things: the students must demonstrate that the pupils understand the assignment; that is, the pupils' responses show that they comprehend what is to be accomplished. (An example of this is that the pupil is able to restate the assignment given by the teacher, but in the pupil's own words.) This is a behavior, see? You don't judge what the teacher does, you know; you judge what the pupil does. The other part to this task is that the teacher, in some way, gets the pupil to demonstrate that he's willing to undertake this assignment. Now that's a little more complicated. So you have two kinds of behavior: a knowledge behavior, and an affective behavior.

The system starts off by presenting a model of the communications process and then it asks them to write a strategy by which they would transmit this same bit of information to their pupils. Now, all the background that the student has is right here in this system.* They don't have any books or other materials (although they may be directed to other materials). I did give a lecture on this. They didn't all come. (Several

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* Editor's note: See the appendix following this section for a complete explanation. The students referred to here were part of a pilot program tested at Washington State University.

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* Editor's note: Refer to "The Schematic Drawing of the Learning System" included in "A Systematic Approach to the Anaylsis of a Non-systematic Process" at the conclusion of this chapter.

purpose) for undertaking whatever it is that he undertakes. Then, they come to a criterion task. He writes has own criteria for evaluating this teaching performance.

Burkhart: Now, does he have to demonstrate that this evaluation is appropriate?

Hite: Well, we gave him a video tape recording of a teacher performing this same task, you know, giving an assignment and explaining the assignment to fifth grade kids. And they used their criterion to appraise that videotaped performance.

Burkhart: This is the laboratory aspect of the system, is that right?

Hite: Yes, this is part of it. And then we go on to the next step, in which students write the complete plan for a micro-teaching demonstration. This involves, you know, the strategy for getting a response indicating comprehension, and the strategy for getting a response indicating awareness. Both. They write that down. They check peer decisions with our staff. We go over that. And then we bring in usually four, sometimes five, youngsters of the grade level they're teaching. We set it up with the video tape thing and all, and they demonstrate their plan with these youngsters, usually in about five minutes. Then, we go over the video tape with the student and then, the final criterion task is the reteach. The student does it again with a different group of four youngsters. In the same period they reteach this. We saved those tapes because this task was the first interaction attempt. We kept that to compare it with the student's own video tapes later on, in the student teaching and now during interning. That's all one system.

Burkhart: One of the things we're saying here, that's rather quite concise in answer to the questions of need in training, is that we must break the test down much more, and into more parts. And much more feedback must be given. I want you to go on now, if you can, to discuss what you think this means in the field. *Is this better, for instance, than if we had a bunch of teachers sent through our programs as they usually now exist in most places? Are you getting a better kind of result?*

Hite: Well, I think we are, of course, or we wouldn't be continuing this. They know in operational terms what they're attempting to do, which I think you must start with. I think that it's also true that our goals — the kinds of outcomes that we want learners to demonstrate, the kinds of behavior changes that we require — our goals are now adequate. But it really doesn't do much good, in my opinion, to have rather elaborate kinds of goals if there's no means of implementing them. And the first way of implementing, I'm convinced, is that you have to be able to

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of them liked it; they liked it real well. I liked it very much.) The lecture was based on that little diagram, which is the Shannon Model which is very familiar on communication. Now, because that model of the communication process is, in fact, the strategy for this system, a sharp kid may look at the model and the assignment and have all the information he needs. If he can make that kind of inference, that this is the strategy he is expected to demonstrate when communicating to the pupil, there's not much point in our fiddling around with the rest of the system.

Once the student gets to this point of writing a description of a strategy regardless of the path he has had to travel, then the evaluation of that is a peer evaluation. That means that he goes to another student who is going to teach something like what he is, and he checks it out with his peer. If the two decide that it's done pretty well, he goes on. If not, maybe he'd better modify the strategy. This is written down by the student. If at any time in any of these systems, he feels he can demonstrate the criterion task, O.K., he can try it out.

The next particular operation of the student is to write up a way of getting the response from the pupil. To do this, he might ask himself, "What is the way that I would get a response from the pupil which would indicate that he can state this assignment himself? What is the strategy for doing that?" This is it, this is it for the first part of the task. There's a second step, but so far he's done three things.

Burkhart: You'll have to remind me; what are they?

Hite: Yes. Well, he was given the system and he listened to my lecture, or he read this material. Secondly, he wrote a description of how he would give information to the youngsters describing the problem that they would undertake. Third, he wrote a strategy for getting from the pupils responses indicating that they understand.

Now, part B of this has a little different kind of an approach. Having decided that he understood what was involved in bringing about an expression of willingness from the pupils, then the next step was to write a strategy for bringing about a response indicating a favorable set toward the task on the part of the pupil. This was evaluated by other students, other student teachers. Then a second attempt was made to write an alternative strategy, and if you think back on the communications model, the assumption is that one communication never does work; you always have to have some redundancy. So we, then, specifically require the student to write a second strategy for eliciting the kind of response that would indicate that his pupil understands the purpose (and accepts the state the goal in these terms; you have to be able to describe what it is that you will accept as evidence of this appropriate kind of change in behavior. Once you've done that, and you're convinced that the problem is to help the learner demonstrate that, then I think we come out with different things. Now, I think an answer to your question concerns these twenty-eight youngsters. For instance, you've tried to write objectives in behavioral terms as I have.

Burkhart: It's very hard.

Hite: And you've tried to teach others to do that too. Well, I've tried that, and this is the first time that I've had a whole group all able to do that and able to write objectives in behavioral terms for all six levels of Bloom's taxonomy and Krathwohl's affective domain and the Simpson model of the psychomotor area. And I say that that's pretty good evidence. I've got another piece of evidence here, Bob, somewhere of what happens. Our twenty-eight people did something that I thought was awfully nice; they invited us out to dinner. Most students had never done that to me, and I take that as evidence. One of the things that they did was they gave us all systems to complete at the dinner. This is the one they gave me, you know. "Behavioral objective: the pupil, that's me, must demonstrate the duck walk using all motor skills available until the body experiences physical exhaustion. Please read the following in clearly organized activity steps." Now this really says something to me about the system material you've got there. "Activity I: Bend the knees deeply remembering to get enough balance. Record on Activity 16 Answer Sheet, which can be found attached to the last section, page seven," and they go on from there. They have a lot of real cagey things here, and, well, you can see what it is.

Medley: Sounds like they're giving you feedback?

Hite: Yeah, but it was nice. They paid for my dinner, you know, in order to do this. And I think it is interesting in kind of an inferential way, that they can do this, that they can apply a kind of behavioralistic sort of a model, in their own language, to things that they get some fun out of.

Burkhart: Did you see much difference between this group of students' performance in the classroom in any specific ways as compared to teachers that you had seen previously?

Hite: Well, this is a tough question, Bob, as you know, but these twenty-eight students were pre-hired as juniors, all by one school district.

The school district picked them out; we didn't pick them out. They represent quite a range among our students. I don't know how they chose what they did, and the students don't either. There are some I wish they hadn't chosen, but they made out all right.

SECOND ISSUE: IS PERFORMANCE CERTIFICATION PRACTICAL NOW?

Robison: You see, I'm thinking of a university, you know, in this state that has to prepare 6,000 teachers a year. Well, you know, I'm not criticizing the idea. I'm just trying to take it a step or two further and see how it would apply before Vince Gazzetta buys it hook, line and sinker.

Hite: Well, I would endorse Lierheimer's proposals as I understand them and wholeheartedly, because they fit in with ours. The State of Washington has a new set of guidelines for certification that's now being discussed. It's in a fourth draft form, which means that it's about what will be presented to the Board of Education of the State. I think the State, which has had a discussion going on now for a year, a very violent discussion about this because this is not an easy thing to accept, has essentially accepted these basic assumptions. The assumptions are, first of all, that teacher education and certification should be based upon performance criteria. I think Lierheimer is stating that courses, number of hours, amount of student teaching and so on, is totally irrelevant. This is stated in there, too: that these are indirect and irrelevant conditions for certification, that certification should be based on whether or not the individual applicants for the certificate display what it is that the institution spells out as the desirable performance.

Burkhart: That's the school? The institution is the school?

Hite: That's right. Another point is that the training of teachers is a shared responsibility, and it's shared not only by the college and by the school district as an organization — as a teacher education organization — but third, by the professional organization of teachers, whichever is the appropriate one for that teacher. These three share in the certification of teachers. It's stated in here also that programs at the college and at the school, should be all based upon individualized kinds of learning conditions. Now, in a sense, this systems idea is really a pilot study for those conceptions about teacher education guidelines. It is not the only one. There are other ways that you can do this kind of thing. But in this sense it doesn't matter whether a teacher gets the first certificate after, let's say, two years of college study, or after five or ten years; it's whenever the teacher meets the criteria set up by the cooperating institutions.

Burkhart: I see Ted Andrews nodding his head, and Vince is looking happy. Would you like to talk?

Gazzetta: We can't help, I don't think. At least I can't help in the foreseeable future, except to keep in mind the responsibility that the State has for maintaining some aspect of a normative evaluation of the people who are going into the public schools. At the same time, Al Lierheimer expressed very well our real deep concern for what we're doing now. And we're pretty well assured, and Herb, I think you supported this, that what we're doing now, as far as many of us feel, isn't worth the time or the effort, or the expense to either the State, the teacher, or the kids. Or the taxpayer for that matter. So, what essentially we're searching for, and this is a deep search, is some way that we can through some kind of an arrangement, and I suppose I have to include bureaucratic arrangement. Somehow we have to take care of the 200,000 teachers in the State of New York who are serving in the public schools. We're not satisfied with what we're doing today in course counting and in specifying for the colleges in the State what the curriculum for teacher education shall be through the certification requirements. We found very, very definitely even when we said, "Don't pay any attention to the certification requirements," they are still there very, very vividly. So again, we could look at a system like Herb has described and say at some point in the training process, that a teacher education institution says, "Student A has met a certain level of performance," and I don't know what level it is, or what it should be at this point, but a certain level of performance, "which makes the institution feel that this student is ready to go out into the school." O. K. Why shouldn't the State at that point say, "All right, here's an initial piece of paper." To follow up on Herb's suggestion, we agree that the public school has a training responsibility, that at some point in the experience of the teacher, either in his first year or somewhere in his pretenure period, the school district can in a like manner say, "This teacher has reached this point of performance." Maybe at that point, the State is ready to say, "O. K., you know, you're well on your road. You've met the minimum normative standard, with which the State has to be concerned. From here on it's a matter of you and your individual school district, helping you grow professionally. The State can do some things, but as far as mandatory legal requirements, you're well on your way, and we're ready now to give you a final piece of paper." This is what it ends up with. So maybe we're getting to a point here, Bob, where at least I can see that there are some real possibilities. Saying to a teacher in training (or a teacher who comes in off the street to a superintendent and says, "I want to be a teacher of English," and because a superintendent can't find a teacher of English who came through a program, he can say,) "O. K., I'll take you on for six months, and at this point, we'll provide this kind of help." Because this is what the State says is the absolute minimum.

Hite: Now, in our State, there is a little group of people, who our State Head of Teacher Education called a Liaison Committee. It's a very ambiguous name, but the group is supposed to be a way for the State Board to deal with the teacher training institutions. Now this committee (which is six or seven people — three people from colleges, three people from schools) visits all the teacher training agencies on a three-to five-year cycle. Before the visit they have read some kind of a report from the institutions as to what their program is. The requirement for the report would be that the institution has defined its performance criteria, what it is that in this institution's view constitutes the behavior of the effective teacher. Secondly, the report should describe what the program is that is directly related to implementing those particular objectives. And so what we, the committee, looks at is, do they have such a thing? Is the program really related to performance criteria or isn't it? And then, we look for some way which the institutions evaluates the individual applicant for the certificate; how do they know that this particular individual has done what it is that they said their program is designed to have him do? And then, the fourth question we ask isn't in the guidelines yet, it is, "Are you satisfied that this is worth doing?" Because this gets at, I think, a basic question for the institution and the school district, too. Finally we ask, is there really evidence that the two agencies have worked together honestly?

Gazzetta: Let me take this a step further. Maybe I'm going off in the wrong direction, but I think that I personally can accept what Herb has said here about looking at a college and looking at a collegiate program in this light. But then let's say that, because of the mechanics at the end of that point, the State of New York issues a piece of paper. Now, is there any reason that this teacher, trained in Buffalo, can't be all of a sudden teaching in Locust Valley out on Long Island? (The difference in mileage is great.) But then, can't the State say to the school district, "You define for us what your appraisal criteria are for the performance of this teacher at a certain point in time?"

Hite: Right, you've really pointed out that there are two different sets of criteria operating here. The way we've looked at this is that this whole system I ran through is kind of a "go" or "no-go" proposition. The future teacher demonstrates the seven criteria that we arrived at or he doesn't. Now, the assumption is, that when he gets into the school and practices this behavior over and over again, that there will be growth. There will be an improvement from a qualitative point of view. For instance, one criterion says that the teacher will get from a sufficient sample of pupils, you know, such and such a kind of response. Well, that's a qualitative judgment. When you're doing micro-teaching with four people that's one thing...

Burkhart: Well, now you see, you've brought something up that's getting to us, because here is Bill Keller who has a whole school district. He wants to know how he would ever train a staff to make that kind of an evaluation.

Hite: So are school districts in the State of Washington.

Burkhart: How do you train a school district to make these kinds of assessments? We aren't able to accredit for many reasons, but often because there aren't enough cooperating teachers to make these assessments of student teachers. Now, how do you do it at a school district level, and what's needed to make this work?

Hite: Well, there is the Triple-T program, you know in the new Educational Personnel Development Act, which says that it's important to teach the teachers, and also the teacher's teachers, and also the one who trains that person. The State of Washington as a state has a proposal, and essentially the proposal involves sixteen pilot projects doing just what you say. It is designed to create groups of cooperating teachers in schools and colleges, and to help define the behaviors needed by these people for their kind of training assignment, which is working with the beginning or interning teacher. The new state certification pattern, incidentally, provides for a preparatory certificate, an initial certificate, a continuing certificate, and then finally, a consulting certificate. Now this consulting certificate is a new deal. O. K.?

Burkhart: Now, this is for teachers?

Hite: The preparatory certificate is one which is for the student of teaching and which authorizes him to go into a school. Incidentally, with the preparatory he can get paid, for one year, and it's renewable. The initial certificate is good for from one to five years, and it's the period you were talking about. It's essentially the intern period. Yes. He now has the minimum skills that we would say qualify him to be solely responsible for a group of learners. And then he's given the continuing certificate; here is where the thing gets kind of cloudy because this is really a merit judgment that has to be made. The only place it can be made is in the school where he practices, and the judgment is that he's progressed from this point of entry into the profession to this point representing growth. Alternatively or additionally, he has other kinds of behaviors beyond instructional management, such as making decisions about what should be taught, or performances dealing with other adults — his peers, parents, and so on. Once this higher certificate has been granted, this can be a permanent or continuing certificate depending upon the school district. On top of that (and not assuming that everybody will get the conditioning certificate or that everybody will get the initial one for that matter) is the consulting certificate. And for a teacher, this includes kinds of behaviors that are in addition to classroom management. For example, the training of beginning teachers would be an additional competency. This is the school district's basic responsibility with college cooperation, and this one (the consulting certificate) is a joint responsibility of the school and the professional organization. (Note: The "this's" indicate I was pointing at a visual while talking.)

Burkhart: Yes, well now we're going to ask the question at least later on, but you might go about helping us now. How do you go about doing that? Have you developed any system for doing that? You, Lenny, were in charge of a commission for the State of New York in charge of looking into supervision, weren't you? What was the problem there?

Kaplan: The problem was that no one knew if anyone knew how to do it. I can't really help concerning the findings of it, because it was a two-year commission, and I left after one year. But the reason for establishing the commission, which was done through the New York State Association for Student Teaching, was that the Association felt that there was some need to define exactly what a college supervisor does. Because as was pointed out earlier, it is an extremely large expenditure. Student teachers or undergraduate people in education generally have given us feedback to say that this is one of the critical periods of their undergraduate training, if not *the* most critical. And the student teacher, as indicated by some of the feedback we received from them in the research that I was talking about, felt they leaned toward a college supervisor as a real key individual. And the New York State Association of Student

Teaching felt that there really was no clearcut statement available anywhere, at the state or national level, to give any type of direction for people going out and carrying out this function.

Burkhart: There's no training system in existence for the trainer of teachers to learn to evaluate other teachers.

Kaplan: Well, this was one of the concerns that came out. It was hard to generalize because it was not a national study, but the evidence we received indicated that teachers of teachers have no training about this role. The assumption is sometimes being made that someone who has successful classroom experience, and I've never been able to find out what that means, can teach teachers.

Hite: That means they're still there.

Kaplan: Either they're still there, or they weren't asked to leave, I really don't know. But they were successful. They can do the task, or someone holding a doctorate can do the task, or someone from more than fifty miles away can do the task. It was just that cloudy; so this was the initiative for doing this.

Medley: I just want to ask a couple of questions over here. I think I heard you say that the criteria that are used in this first certification are those of the college training institution. The state does *not* dictate a set of performance criteria for the school system. I think that's why Vince likes it, because it takes the state right off all the hot seats. You said earlier, Vince, that the state has a responsibility to monitor the teachers that are going into the state. Now I wonder whatever happened to that scheme that John and I proposed, not the details but the general point of view, which was that the State Education Department would evaluate the output of a college, the product, periodically, to see that this individual institution was not turning into some sort of a diploma mill. That it was turning out a reasonably good teacher on the average. The state would be around to see that the college was not turning out inferior teachers. Didn't that seem to be a more reasonable approach than to try to turn this whole thing over to the college? I like colleges, and I respect them, but I don't think that they should have that much power.

Hite: Well, I think that what happens anyway is that, you know, this is what the college actually does. It adapts whatever it is given, and it goes with whatever integrity it has.

Medley: Well, I'm an old measurement man and I can't see each one using its own criteria, and then putting them into one package and saying anything about the average teacher in the state or what he's like.

Hite: Yes, that's right.

Medley: Someplace there ought to be a way to get an estimate each year to the Commissioner saying, "This year the average teacher in the state is of such a quality." If the estimate is too low, then some move could be taken to improve it, and by gosh, next year you'd notice an improvement over the state as a whole.

Gazzetta: You say it takes the state off the hot seat, and you're right. But what it does in turn is to require accountability on the part of the college at one point and accountability on the part of the superintendent or the school district at the next point.

Medley: But I don't see the mechanism. It sounds to me as if you're going to the superintendent and saying, "Are your teachers good?" And he says, "Yes." O. K. You go to the college and you say, "Are you turning out good teachers?" And they say, "Yes."

Hite: But you know we've had in our state what some call a pretty enlightened certificate program, which meant that the institution was responsible for its own judgment. And part of the program is that, during the so-called qualifying certificate period, there has to be some type of testimony from the school that the teacher is adequate or successful (or is a teacher) in the entire period.

Gazzetta: Well, at least you have both the college and the school agreeing that the teacher is all right.

Hite: Well, we've only had one case in my state, to my knowledge, where a school district has said that a teacher was not adequate. It's on the basis of that record, you see, that we go toward this other view, you know, that there has to be some type of inservice program. This program has to be based upon performances — they have to be stated in operational terms. Our hope is, and it seems to work with some institutions — whether it will work with schools, we don't know — is that once they make what they're doing visible, and that's what they do when they write these things operationally, they can't escape, you see. They say, "This is what we do." You have forced people to make value judgments as well as take technical positions. You say, "Well now, is that really a program that you think is bringing about teachers who meet the current problems in our society and in our state?" I think you have to work it that way.

Kaplan: How do you get a school district not to use the kind of criteria you spoke of as being inadequate in the estimate of teachers, the kind that usually appear on supervisor's forms and frequently appear in board directives to teachers, stating what kinds of things that their promotion and tenure will be based upon?

Hite: You have to train people, and this is I think, one of the great hopes of the Triple-T program, the Educational Personnel Development Act programs, where there will be projects that will demonstrate and provide guidelines to schools and to colleges as to what are these performances that the trainer teachers should demonstrate, either in the school or in the college. Right now, as you point out, we don't know.

Bown: How in your system do you achieve what I would call individualization? When a person is in a college, he at least deals with two types of faculties. One is called the subject content faculty, and that other one is what you might call professional. At the college level there is always indecision as to what extent do the professional people know what, how, when. To what extent do the subject people? So far we have not defined what a person is teaching—at what level. He may be a generalist, as you might call a teacher in the elementary schools. He might be a specialist in the upper level. I'm trying to tie in to what extent do you measure ability to understand content that is to be presented — who does it? But on the school level, if we move into the possibility that at the end of two college years a person might be ready to start teaching, then someplace there is a centralization of individualizing that person, spelled out in a more individualized way than saying that he has 12 A's, 5 B's, etc.

Hite: Right! Oh, that's a big question. There are several questions here. One is the business content competency. We're fussing around with a system which we hope will be a model for this in the area of mathematics. We started with the question, "What does the student of teaching have to know about the behavior of learners with regard to mathematics?" What does he have to do about the learning behavior of pupils in the field of mathematics, inasmuch as he's teaching mathematics. Now, the idea here is to try to focus on the specific application of these general teaching behaviors to that particular content aspect. Then we go back from that and say, "Well, what are the things a person has to know, or the behaviors he has to demonstrate concerning mathematics, before he comes into this math education system?" That tells us the necessary competencies he needs from the content department.

Incidentally, a very scientific answer to your question: I have never felt so secure as a faculty member of a professional group in a State University as I do with this material with my colleagues, because I feel that I can defend what I do, and I think this has intellectual rigor, considerable intellectual rigor for both me and my students. I can explain it where I couldn't very well before. And I've also found that most of what I've been doing before is totally irrelevant.

Bown: Could we get clear on this one point that's terribly critical to me because we're involved in the same business. To what extent has your instructional design approach permeated your entire teacher education curriculum?

Hite: Well, let me see. I guess you're asking me first who I am, and what we've done as a staff at Washington State University. The state as a whole has accepted the idea of performance criteria; that we will have behavioral objectives for the training of teachers. Our staff has accepted the idea that the whole teacher training package can and should be revised, and that we'll undertake this. To that extent it has permeated. I don't speak for anybody but myself as far as a particular approach is concerned. I tried to demonstrate the concept with one school district and with the twenty-eight youngsters. That's all. We're now trying to use the pilot study experience as a basis for designing a model elementary teacher education program. This is to be one of eight models funded by the U. S. office. The northwest regional laboratory administers the fund for this project.

Burkhart: Now, does this imply that colleges, subject matter areas in colleges, not education areas, but subject matter areas are going to have to have staff and be capable of stating performance criteria within their areas, in time?

Hite: I think it's implied. It's never really been stated. It's stated as kind of a general desirability in the new guidelines for Washington.

Hemphill: As I understand it then, this single study is what you've done. It hasn't been replicated, and you have twenty-eight students in it, and I further understand that the State of Washington on the basis of this is willing to alter its entire certification package.

Hite: Well, I wouldn't say that it's on the basis of that or that alone. This seems to the State of Washington, as a pilot study, to be one way of demonstrating the feasibility of performance criteria.

THIRD ISSUE: WHAT ARE THE PUPIL COSTS FOR PERFORMANCE CERTIFICATION OF STUDENT TEACHERS?

Robison: Do you have any idea or an approximation of what the per pupil costs were in this type of teacher education?

Hite: Well, we're undertaking a little study of that.

Robison: Can you give me a rough estimate?

Hite: Roughly, it would seem to us, that it's the same ratio as working with student teachers, like you have one supervisor for fifteen student teachers, fifteen to twenty. It's that kind of ratio rather than a class ratio.

Robison: Well, you're a State institution. If it got your faculty on the basis of fifteen to one, could you operate this program? And if you had the talented faculty to carry it out?

Hite: That's a very good question. This incidentally is a question that people in our State are asking more than the question about whether or not it does seem to work. That seems to be not so much concern, as what will it cost. That concern is expressed not only in terms of money but also in terms of consequences to people and institutions. We have a feasability study to answer these questions, which is supposed to be finished this summer. At this point it seems to us that twenty-eight kids in a learning system would require two or three hours a day of a professional staff members' time for a semester, this would be about a third of a full load. The things that a faculty member does in a system are not the same kinds of things he does in a course. Also, some of the things that we were doing, we were doing because it was the first time. It's hard to break out what needs to be done only once. Secondly, a lot of what we were doing doesn't need to be done by a professional person at all. We were fussing around with materials and equipment and stuff. You may well deploy staff differently with experience with these problems.

Now, the consequences other than cost, I think, are also a considerable item to consider, if you'll pardon the redundancy. For instance, we mentioned the lecture bit. The job of the faculty member is different from teaching a course. You don't get certain kinds of rewards that you used to get; you get other kinds. I know those twenty-eight kids better than I ever knew a group of students, in spite of the fact that they're supposed to be in a nonhuman system thing. They, in turn, got very closely acquainted with "the engineers," you know. So you have a whole new thing. The grading system doesn't work; the attendance system doesn't work. Most of the existing provisions for teaching in a college are for group learning, and they can be used. This particular system used available materials mostly designed for group teaching, and they are not efficient for this job. I would say micro-teaching for example, specifically answering your question, is not feasible for 6,000 students in an institution. I would say it might be feasible if used in a school district. It seems to me that a major change that might well be made is to change the whole role of the college person who works in the school community. This ought to be a very important person and right now he's bottom man on the totem pole in our institutions, academically. If you beef up this position by providing, you see, teacher-training systems in the school district, for a whole semester or a whole year as a residence period, then some of these things might be done simply, which are now very complicated, to carry out in the college setting.

A Systematic Approach to the Analysis of a Non-Systematic Process

by HERBERT HITE

The performance of the able classroom teacher appears anything but systematic or scientific. We observe that the teacher interacts with pupils in such a way that particular teaching behaviors blur into a single act. The effective teacher seems to perceive, make decisions, execute these decisions, assess the results and make new decisions so rapidly that the essence of this interaction seems to be intuitive. Evaluation and analysis of this act, however, are processes which by their very nature must be systematic. The anomaly is that a process which at its best appears to be uniquely human and nonsystematic can probably be improved by a strictly disciplined, systematic approach.

What follows is a description of an approach to the evaluation of teaching in which (1) some principles of systems analysis are applied to identifying components of the teaching act, and (2) these components are defined as objectives for the education of teachers and then as criteria for assessing teaching. To illustrate the systems approach, we will refer to a model for teacher education and evaluation which is being developed to implement new guidelines for teacher education in Washington State.[1] The same model is part of the Comfield Project — specifications for an exemplar program to educate elementary teachers.[2]

Systematic Analysis of the Teaching Act

The process of analyzing is a process of taking apart. The analysis of teaching is to take apart what we define as teaching. Systematic analysis requires that the analyst identify all the components of the object for analysis, and that he describe all the relationships of these components. Analysis is an operation carried out by human analysts, of course, so the requirements of systematic analysis must be accepted as goals rather than as descriptions of the process in action.

First, Define the Ultimate Product.

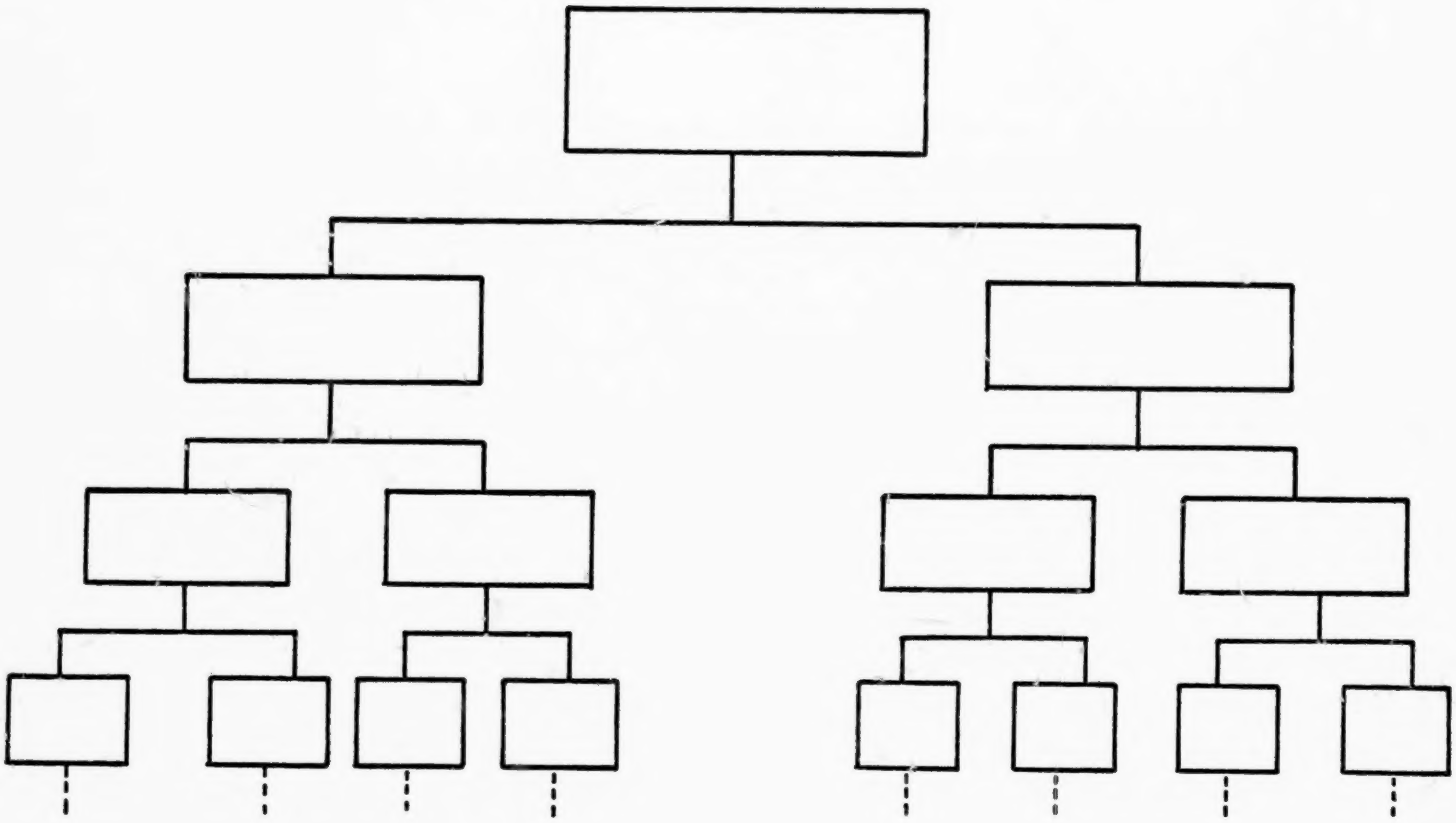
The first step in systems analysis is to describe as specifically as possible what is to be the ultimate goal of the system. In this case, we are to analyze teaching, so the ultimate goal is effective teaching. The term teaching, however, is one which includes a number of roles and is not a specific enough term for our purposes. The term, teaching, as commonly used may describe the actions of persons who decide who is to be taught, or what is to be taught; or it may describe the actions of persons who guide learners in face-to-face situations.

In the model of teaching, which is the example of the analysis process in this description, the purpose of teaching is to bring about learning. This modest aim is not the universal goal of American education. More often the purposes of teaching may really be such administrative aims as classification of pupils, or moving pupils of a certain age through a grade and content area in a given amount of time. When we define the purpose of teaching as bringing about learning, we set the major parameters for evaluation of teaching.

In this model the ultimate product is the Effective Instructional Manager — one who elicits appropriate changes in the behavior of learners. This description of behavior is perhaps a first step in analysis because the statement limits the term, teacher, to a particular role. Other roles might be those of instructional analyst, instructional designer, etc. In general terms, the ultimate criteria of effective instructional management is that pupils *do* demonstrate appropriate changes in behavior.

The model then has identified the major elements of a teacher education program. Each of the major elements, components of the ultimate product, must then be further analyzed, but we have identified a system which is a logical arrangement of our concepts about the instructional manager.

IDEAL SYSTEMS ANALYSIS MODEL



"Tasks" Become Systems Within the System

The goal of the whole model is to define a system which will produce instructional managers who elicit appropriate changes in pupil behavior. The strategies for moving students who are becoming instructional managers through a series of Tasks must be consistent with this broad goal. The test of the strategy for educating the student of teaching is that the student will demonstrate to criterion level the behaviors which were identified as evidence of the Effective Instructional Manager. The means for enabling students to demonstrate such behaviors in this model is a series of learning systems.

Prototype systems were developed at Washington State University in the fall of 1967. Two learning systems, one for the Task, Stating Objectives in Operational Terms, and one for the Task, Interacting with Pupils So That They Achieve the Objectives, are attached to this paper as Exhibits.* In a pilot test, twenty-eight senior candidates for teaching certificates completed these and other systems. The staff was satisfied that most of the students reached a criterion level of performance for each of the systems. The systems need considerable revision, but they seemed to the staff of the project to demonstrate that an individualized approach to learning through a systems model was a feasible method of implementing behavioral objectives.

The model for a teacher education learning system consists of five elements:

1. A statement and explanation of the desired behavior
2. A procedure for assessing each learner's entry level in relation to the desired behavior.
3. Alternative sequences of learning activities in which each learner either:
    (a) successively completes behaviors which constitute essential steps leading to the objective
    (b) demonstrates an advanced level of entry behavior, and consequently bypasses selected essential steps leading to the objective, or
    (c) demonstrates a deficiency and meets prerequisites to essential steps leading to the objectives.

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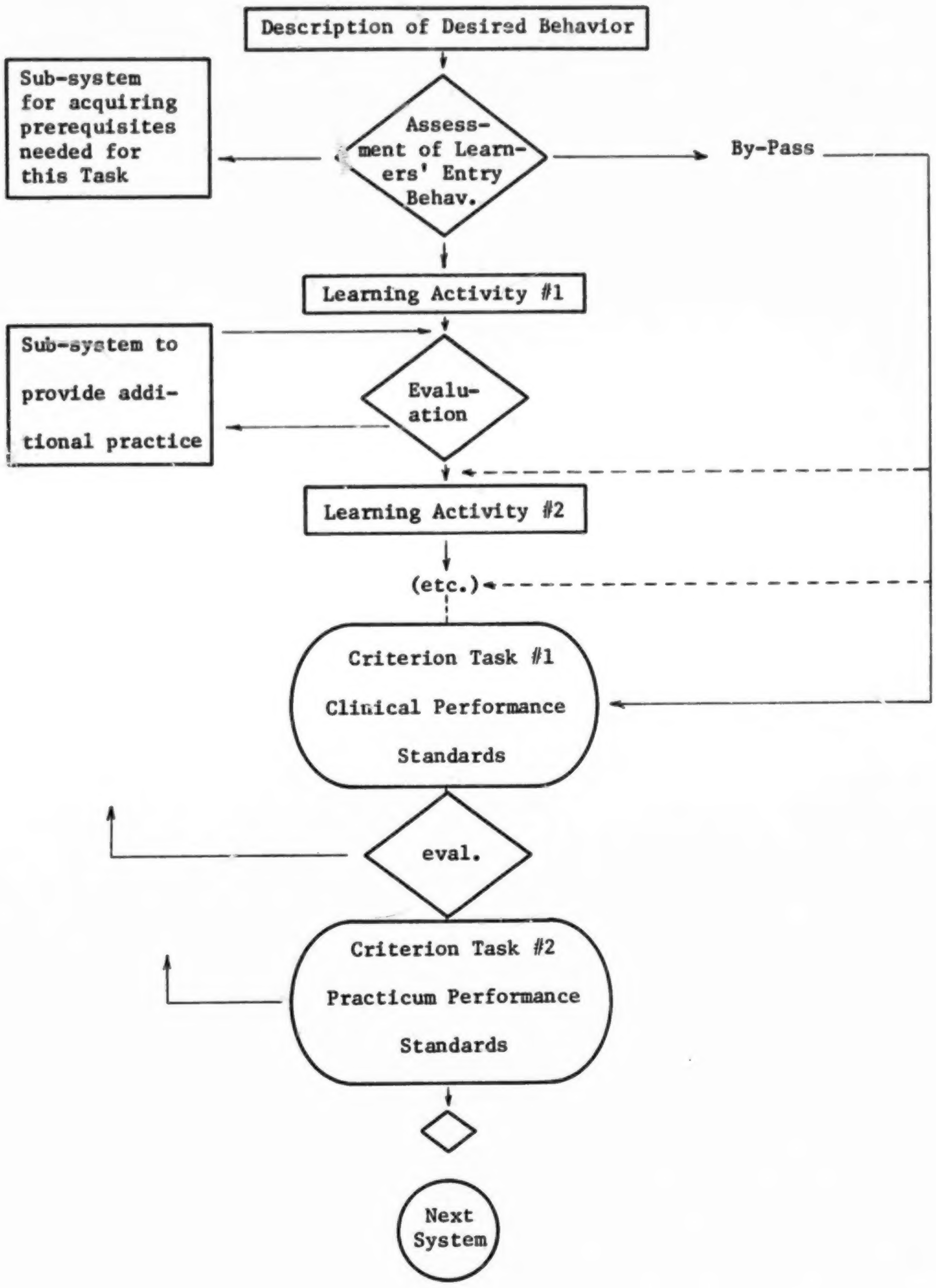
*The word, Task, is used in a slightly different sense in the attached Exhibits. Tasks as used in the learning systems would be sub-tasks to the Tasks described in this text.

4. A criterion task in which the learner demonstrates the behavioral objective in terms of a generalized performance standard
5. A second criterion task in which the learner demonstrates the behavioral objective in terms of *situation specific* performance standard.

An adaptation of the Seattle Appraisal Form, using the criteria identified by the analysis techniques described in this paper, has been tried out as a part of the pilot study with twenty-eight seniors from Washington State University, interning in the Bellevue School District of Washington. The major components of the behavior of the Effective Instructional Manager are being tested as the categories for appraising the performances of the twenty-eight interns. Further specifics for making judgments of these categories are defined by grouping the second- and third-level analysis components within these criteria. The form, like the Seattle Appraisal Form, does not deal specifically with the three conditions for judging appropriateness. At this time, in the pilot study, different judges, competent with respect to content and learner characteristics, appraise different interns. That is, an English teacher appraised the performances of the intern in that field; a mathematics teacher used the experimental form to appraise behaviors of the mathematics intern. In the laboratory, demonstrations by the twenty-eight interns in the pilot study are judged by methods teachers or graduate students with experience in the appropriate content field. In the practical demonstrations in Bellevue Schools, selected experienced teachers made the evaluations. In the first situation, the judges appraise the performances with reference to a "set" of learner characteristics, and in the practical demonstration the judges appraise the performance in terms of the requirements of a unique group of learners.

One major problem in evaluation is the absence of models of different criterion levels of performance for different teaching behaviors. A project to produce a series of video tapes is a side study of the Bellevue, Washington pilot study. Video tapes of the twenty-eight students under laboratory conditions are being augmented by video tapes of the same students performing the same demonstrations but after some practice as interns. The students will be taped again during their first year of teaching to obtain a third sample of the same teaching behavior. Hopefully, these tapes will result in sets of three tapes for different performances, and the set of three tapes will clearly show a minimum level, an improved level,

SCHEMATIC DRAWING OF LEARNING SYSTEM


Description of Desired Behavior
Sub-system for acquiring prerequisites needed for this Task
Assessment of Learners' Entry Behav.
By-Pass
Learning Activity #1
Sub-system to provide additional practice
Evaluation
Learning Activity #2
(etc.)
Criterion Task #1 Clinical Performance Standards
eval.
Criterion Task #2 Practicum Performance Standards
Next System

and a superior level of performance of the same behavior by the same instructional manager.

Ultimately the instructional manager himself is the person most concerned with his own evaluation. Video-taped recordings, comments on a tested instrument written by a trained observer, or audio tapes are each a means of supplying a mirror of performance for self evaluation.

The method of evaluation of the instructional manager which is being tested for the model described in this paper is still developing. No satisfactory method has yet been devised for judging both the general techniques of all instructional managers, and at the same time specific applications to the three sets of performance conditions. The systematic analysis of "eliciting appropriate changes in behavior of learners" identifies all the components and all the criteria for evaluation. Whatever we finally do to evaluate instructional management must deal with all these elements, or specifically exclude some of them.

Summary

The approach taken in this paper to teacher education and the evaluation of teaching results from a logical analysis of the defined purpose of teaching. The purpose of teaching is assumed to be that it should bring about learning. Learning is defined as appropriate changes in the behavior of learners. Behavior encompasses all of the kinds of activity of which the human organism is capable — thinking, acting, feeling. A more refined statement of the objective of teaching is that it should bring about appropriate changes in learners.

A logical analysis of this purpose should result in the identification of the elements of the behavior bringing about appropriate changes. These elements are at the same time the logical objectives for a program of teacher education and the criteria for assessing teacher effectiveness.

The process of analysis is a process of taking apart. If the process is systematic, it will identify all the components of the desired behavior of teachers and the relationships of these components. This discipline of systematic analysis requires that each time an analyst takes apart an element of the total behavior, he should define the largest, meaningful components he can perceive. By successively defining the largest, meaningful components at each stage of analysis, the analyst insures that he will define all the components he can conceptualize and identify all the possible relationships of these components.

The more one breaks out levels of analysis—takes apart—the smaller are the parts of the total behavior. The smaller the components become, the more specific are the objectives of teacher education and the criteria for evaluating teaching. At each level of analysis, all the components at that level describe the total behavior described in the original purpose of teaching. Analysts—teacher educators and teaching evaluators—decide subjectively that the process of taking apart has gone far enough when further analysis does not seem to justify the costs and efforts.

The logical strategy for enabling future teachers to demonstrate the behaviors of the Effective Instructional Manager is to devise learning systems for each significant piece of the total behavior. These learning systems are subsystems within the total system for defining teacher education objectives and criteria.

The means for making judgments about particular performances by the teacher is to observe how the behavior of the teacher compares to the criteria which have been identified by systematic analysis of teaching.

We conceive of this total model of defining objectives, criteria and learning systems for teacher education as a system. A system must always have a self-correction capability. In this system, the analyst continually re-examines the judgments he makes as he defines objectives and criteria.

Finally, the total system for teacher education must be evaluated. Do we really value the logical product of the system? Do we really want to educate instructional managers who effectively bring about changes in the behavior of learners? Does it matter what the particular behavior of that instructional manager is like if it elicits the desired change in pupil behavior? History seems to suggest that the rare individual who really does change the behavior of others in significant respects is usually severely punished for his trouble.

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SEATTLE PUBLIC SCHOOLS

PERFORMANCE APPRAISAL GUIDE

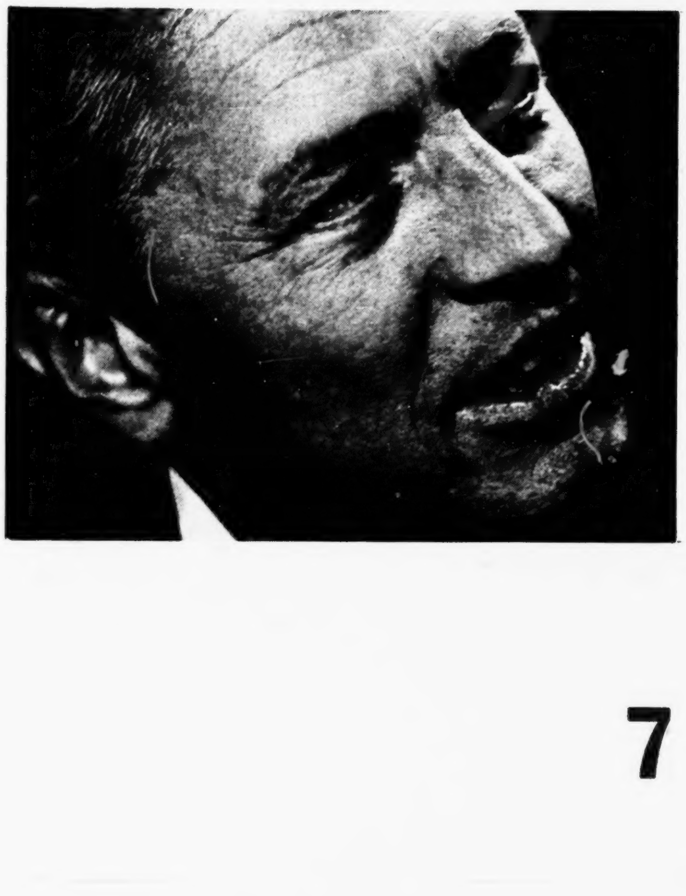
STEPS IN THE TEACHING ACT		DESIRED TEACHING ABILITIES — THE GOALS OF PROFESSIONAL GROWTH	
DEVELOPING LESSON GOALS	1	SUITABILITY OF GOALS	The lesson aims are clear—reachable by these students—measurable—show modern knowledge of the subject—relate to what precedes and what follows in the subject—include what and how to learn—serve authorized district educational goals.
	2	STUDENT ACCEPTANCE OF GOALS	The teaching explores student understanding of lesson aims—relates aims meaningfully to the present lives of these students—the students see the goals as worth working to achieve—the teaching helps students to establish personal goals consistent with lesson aims.
PLANNING GOAL ACTION	3	EXPLORATION OF HUMAN AND MATERIAL RESOURCES	The teaching appraises student talents, activities, interests—stresses the students as primary resources, fellow teachers and staff specialists, parents, other significant adults—available space, texts, tools, audio-visual aids, labs, libraries—time, staff, and material budget limits.
	4	SELECTING THE PLAN FOR THIS CLASS	The teaching considers alternative ways to use available resources to accomplish aims—selects a plan promising optimal success within budget limits of available resources and conforming to school policies—the teaching helps the students to see how the plan makes sense—to plan their own learning activities—inquiry, not habit, guides the plan choice.
	5	ORGANIZING THE CLASS TO ACHIEVE THE PLAN	The teaching clearly defines who is to do what-when-why-how as the plan unfolds—each student is an active, valued member of the organization—each student is helped to see how he fits, how he belongs, how he can be useful, and what to expect of the teacher, of himself, and of other students—ground rules are established.

FULFILLING THE PLAN	6	CLASSROOM CONTROL EFFECTIVE ACTION	The teaching follows the plan—each phase has an introduction, a body of action, and a conclusion—unnecessary deviations are controlled—clear, intriguing, strategically timed explanations, demonstrations, reminders gain attention—maintain interest—motivate—inform of plan progress—encourage student initiative and self-discipline—materials are ready when needed—ground rules are enforced.
	7	CLASSROOM CLIMATE EFFICIENT ACTION	The teaching conserves human and material resources—people—property—time—shows sensitivity to and understanding of attention span—fatigue—human problems—pacing adapts to student achievement—self-respect and confidence is encouraged—rapport is positive—problems, not people, are attacked—leadership patterns are democratic.
	8	ACTIVE STUDENT PARTICIPATION	The teaching delegates to students responsibilities they can handle—encourages students to teach themselves, to help teach others—leaves something for the students to doubt, to ask, to investigate, to test, to interpret, to express, to discover, to be responsible for, to recognize as theirs.
EVALUATING RESULTS	9	MEASURING GOAL ACHIEVEMENT AND COSTS	The teaching measures what was achieved and "how we did it"—using modern techniques for this subject—appraises costs to the participants—helps students to design their own tests—to investigate their own progress—measurements are timed to serve the next step in the class effort.
	10	USING MEASUREMENTS TO IMPROVE TEACHING AND LEARNING	The teaching uses test scores, grades to guide the teaching and learning decisions—not as ends in themselves—post-test discussions are learning experiences, for both students and the teachers—measurements are not used to label students, to indoctrinate fear of failure, to develop uncritical worship of high grades.
PROFESSIONAL AND COMMUNITY	11	PROFESSIONAL PARTICIPATION	The teacher accepts with his fellows responsibility to define and enforce standards admitting beginners to practice in his field—to achieve the in-service conditions, training opportunities, and rewards which are essential to the improvement of practice, to a professional career commitment.
	12	COMMUNITY PARTICIPATION	The teacher studies continuously his school community—relating his professional services to its educational problems. He helps to clarify and strengthen the educational values and expectations of parents and community leadership, related to his special field.

preparation for commitment

FROM SELF TO OTHERS

oliver bown



7

PREPARATION FOR COMMITMENT:

(FROM SELF TO OTHERS)

"If there is a complex process which a young person undergoes in becoming a teacher, our teacher education program meshed with it spasmodically at best, and not at all or in violent discord at worst. Our first general effort was simply to get to know our students in depth as human beings. We attempted to get off our high horse and to meet students where they were when they came to us."

OLIVER H. BOWN

ISSUES

One: Teachers tend to teach in the way that they have been taught. Are we, in our teacher education program, teaching prospective teachers by our own bad example?

Two: How can we get students to know themselves?

Three: If we give the student of teaching practice in focusing on herself, will it make for more rather than less self-concern? Should the learner be the focus?

INTRODUCTION

Burkhart: When I first received the giant package of materials that Dr. Oliver Bown sent, I began to look through it and said, "Oh, my God! He's doing things that we've been trying, and he's doing them well." His material sheds some light on the things we need to know, things that we haven't been able to understand in the work that we've been doing. I showed the materials to one of my colleagues, who said, "That's what I've been trying to accomplish by looking at tapes. I've been trying to get a better understanding of my students." But he has been more daring than we. He has extended his thought to the whole college structure. I would like to have him talk to you about what he has achieved, because a common comment about research programs is, "Sure, you can do that with twenty-five, twenty-eight or maybe even seventy people. But that's not nearly enough; can you do it on a really large scale?" They're going to have to find something new to say to Dr. Bown, because he has done it on a really large scale.

Bown: Thank you, Bob. Maybe it's only because I do come from Texas that I have to make everything appear to be very large and grandiose.

I'm about to make this statement, but, since I am representing the work of many faculty members, graduate students, staff, student teachers, and so on, I would like to mention first that I am going to focus on just one aspect of our work. There are many other aspects of our work which coincide remarkably well with what some of our colleagues have been reporting here at the symposium, but I would like to talk about that part of our undertaking which is perhaps a little different. In some ways, it is less systematic, but we think it gets down to the guts of something that we feel is very important in this whole process of preparing people to teach. It's a little difficult to tell this part of the story, because it goes back now for about ten years. We took five years to tool up, to develop some ideas that we could weave into a rather carefully controlled long-range research effort. Then that took four years to run, and an additional three years were used to get all the results analyzed, all the tapes coded, and the whole thing written up into a volume which is about four inches deep. I assert that we have been at this so long that we really understand the situation, and our understanding has led us to become very confused because it seems like a very complicated business to us.

FIRST ISSUE: TEACHERS TEND TO TEACH IN THE WAY THAT THEY HAVE BEEN TAUGHT. ARE WE, IN OUR TEACHER EDUCATION PROGRAM, TEACHING PROSPECTIVE TEACHERS BY OUR OWN BAD EXAMPLE?

Bown: Curriculum has been organized around the logical structure of knowledge, but there is considerable evidence that this logical structure may be poorly attuned to cognitive and intellectual development as it actually occurs in the learner. Education will increasingly focus on the process of discovery in live human beings rather than on the transmission of canned knowledge. This will require fuller self-knowledge and integrity — fuller humanity — in teachers. It is to the human problems involved in "growing" this kind of teacher that our programmatic and research work in the field of teacher education over the past several years has been devoted.

Teachers tend to teach in the way that they have been taught. What were we, in our teacher education program, teaching prospective teachers by our own example? First, the curriculum of our teacher education program was essentially a patch-work of different courses representing the proprietary interests of various legitimate educational disciplines, each competing for its proper share of the time students spent in preparation.

Now, if I may, I would like to go back over this ten-year period. We have been, in a sense, this slow, because we've been restricting ourselves. We've been learning new roles. We've been trying to get in tune with students so that some of what we do may link up with them somehow. We began by doing a good many things that put us in far more direct touch with students, going through our program, than had been true at our institution for some time. We tried to listen to them, and as we did, we gained a great deal of respect for their discerning and discriminating judgments about their experiences. As a rather large college of education, we thought that we had a lot to be proud of in terms of the caliber of our faculty, in terms of the sensitivity of many of those people, in terms of excellent intentions and their hard work on behalf of teacher education.

From the students' standpoint, however, we found that most of them felt that they wandered through our program as totally anonymous creatures, not really known by anybody until the very end of the experience when they were in student teaching. Then a supervisor did take a certain amount of interest in them and began to recognize them as someone who was very likely to be a source of embarrassment to them by what they did in public. With respect to the content of our courses, the students were the ferocious possessions of the different subject matter fields within education. And each field was fraught with great values in the sense that the faculty members were deeply convinced that no person could possibly teach without having their particular course. In talking with students, we found that they knew how to cope with this. They knew how to come out with what the instructor wanted to hear at the end of the course. They could go through all the motions of getting grades in a college classroom, and they proceeded, as Dr. Fretwell has indicated in the opening statement, to pick up their green stamps, to accumulate their credits, to pass all the hurdles, and eventually to pick up a teaching credential. They described it in just about these terms and with a certain unhappiness, a certain feeling of helplessness, because they felt there was nothing they could do about it.

We began to see that what we were doing was simply missing our students. The ingenuity of a particular professor sometimes made it interesting, from a kind of intellectual standpoint, from the standpoint of an organization of subject matter that seemed relevant in a kind of distant future sense; but the program seemed to miss in terms of really meshing with the students' perception of the process through which they were going as college students and in terms of their interest in teaching. A great deal of what we were doing was like throwing lots of water over a duck's back.

We began systematically to study how we might get our intentions to try to help people become teachers together with the people with whom we were actually working. If there is a complex process which a young person undergoes in becoming a teacher, our teacher education program meshed with it spasmodically at best, and not at all or in violent discord at worst. Our first general effort was simply to get to know our students in depth as human beings. We attempted to get off our high horse and to meet students where they were when they came to us. As a practical example of this, many of our students, mostly female, were majoring in education only because their fathers were paying for a relatively expensive education. We deal with a group of predominately upper middle-class young ladies. Their fathers are, for the most part, successful businessmen. They feel rather strongly that a college education should have some kind of practical effect, and teaching is the ideal answer for these girls. It is often a way to please dad, to make him feel that his hard-earned money is going for a good purpose. This is a way for the young lady to do pretty much what she wants and still manage to please the fountain of all goodies.

I'm not trying to be facetious or sarcastic here. I'm simply trying to say that with a good many of the people coming into teaching, this was a fact, which in a sense we didn't want to recognize. When we were willing to deal with this as a reality, we found that other kinds of motivations and interests could begin to develop, rather than for us to preach another kind of motivation at them. For example, few of them had ever been really responsible for any other human being, and we operated on the bland assumption that by getting a teaching certificate, by graduating from college or by becoming twenty-one, becoming a responsible adult somehow happened automatically. Well, we're now convinced that it doesn't. Because it doesn't, we found ourselves in the position of being able to play a very critical part in their facing a crisis stage. It begins as they see their college years waning, as they begin to try to anticipate themselves in their adult roles, but certainly feeling on very shaky ground in this respect.

We would agree that the student teaching experience was the most critical experience to them, and the most meaningful and valuable to them in terms of the total program. It was also exceptionally painful for many of them, partly because of the fact that it does involve operating in an adult role, often for the first time, and partly because it does involve being the teacher when they have always been students. In terms of the way things have been, there's a rather sharp discrepancy between those two roles. Student teaching often meant throwing them into deeper water than we were aware. We were being rather blind and saying, "Well, everybody's a little nervous at first, and so on." In a kind of paradoxical way, the realization of these things, at least, put us in perhaps a more potentially influential position than we'd ever been in before, one that contained a much more complicated challenge than when we were able to assume that by giving them so much course work, we would make them into good teachers.

We began to restructure things. We still operate within the same general course structure, the same general hours requirement, and this kind of thing; however, our program has gradually changed in some rather significant ways. I want to jump now to a quick run-over of some particular approaches that we settled on in an effort to get the program to tie up with the individual's self-perceived developmental challenges for the many disparate young people in our program. This all occurs in a context that needs to be supportive, but in these three procedures we have learned a great deal. I suppose this is why I want to tell you just a little bit about them. We developed three different ways of offering what we loosely call feedback, three ways about which we're finally getting all the data out of the computer. This very hard-headed evidence is coming from a long-range study with a good many very difficult kinds of controls instituted, and it says that these things did indeed make a difference that was not only statistically significant, but also seems important in terms of what happened to these people, to the way in which they were teaching and to the way in which they were relating to youngsters.

The impersonality of teacher education had a powerful and persuasive impact on student thinking regarding the process of becoming a teacher. We became convinced that the process is deeply personal and individual, so in providing feedback to the student about himself, we used a battery of objective and projective assessment instruments, video tape of his teaching, and a significant challenge in his student teaching assignment. We are convinced that while it is sometimes painful for the student to look at himself, the fact that a faculty member cares about knowing him personally and regards his personal background and outlook and makeup as important factors in the kind of teacher and person he is becoming, holds a great deal of meaning for him.

We did this in a variety of ways: an elaborate assessment program, systematic interviews, course revisions promoting freer interchange between professor and student, follow-up studies, etc. Stereotypes held by the students of the faculty, and vice versa, began to break down, and then nothing could be quite the same any more.

SECOND ISSUE: HOW CAN WE GET STUDENTS TO KNOW THEMSELVES?

A. Assessment feedback

The first of these is what we call assessment feedback. All of the people who enter our program and intend to receive a teaching certificate, go through a process of formal admission to candidacy for teacher certification. The program I'm describing essentially introduced this, and it is now a college-wide procedure. A part of this admission program involves having the students take an assessment battery which is built largely of projective instruments designed to give us a picture of the student in depth. Our concern here was simply with the assumption that what a teacher is, the way he looks out of his eyes, the way he sees other people, the style that he has developed in coping with himself and others, and the kind of anticipation system he has, are important in terms of the way that he is likely to teach. And we think that these are things that cannot be ignored if we're going to give serious assistance to people who are in the process of becoming the best teacher that they can become.

In this particular experiment we did something that isn't very often done. We required people in the appropriate experimental groups to sit still for an assessment feedback experience, a test interpretation experience if you will, but one that I need to describe just a little bit, because it's different from what we often think of in terms of a test interpretation. Under other systems we let the test speak to the person to whom it is being interpreted. We frequently say, "The test says that you are such and such in relation to a normative group of such and such." For a lot of complicated reasons, we did it a little differently, and I think this is rather significant. We assumed that it was our responsibility to speak to the student directly in a person-to-person sense. We, therefore, used the assessment battery as an economical way to get to know the student in some depth rather rapidly, but we didn't blame what we had to say about him on the test. We took responsibility for this. In doing this I think that we are avoiding a very common way in which many psychologists and guidance people hide. It's very easy to say that the test, or the maker of the test, felt that you are stupid in relation to other graduate students or whatever. It's a little bit more difficult to say, "On the basis of my knowledge of these tasks, on the basis of my ability to use myself as an instrument in deducing something that might have meaning from this array of instruments that you have taken, I can only say that my present perception of you on this basis is as follows."

Burkhart: Can you give us an example? For instance, I could be a pretty dull girl student, and I'm going to sit here and say, "Well what did you find out about me, Dr. Bown?"

Bown: In saying that you are setting it up, of course, inviting me to give you the conventional test interpretation. This I would deny you.

Burkhart: Well, what would you do about it?

Bown: I'd like to make this as real as possible, but I'm not sure that I can. "Sally, I've looked over this whole batch of instruments that you've filled out, and I think I've gotten to know you a little bit, even though that might surprise you. I'd like to test out the way I'm seeing you on the basis of what you've said here. The first thing that strikes me is that you seem to have a kind of basic idea that being a good girl is always going to win you Brownie points, and, you feel that this is always going to get you what you want. In this sense, I see you as pretty passive."

Well, I'm trying to say here that our intent is to be direct. Our intent is to level. Our intent is to be totally honest with the student. There is another thing that is kind of important about this, as far as our intent is concerned. We're not witch hunting here. We're not particularly looking for what's wrong with the student. Although it often sounds rather critical, it is often a confronting experience. We aren't particularly interested in a clinical use of this in the sense that we're looking for pathology that we can cure. We have had to make some conversions here in terms of learning to read these instruments for what we call teaching-relevant personality characteristics. We are interested in the extent to which a psychological problem may really affect the student's teaching, and our instruments are designed to give us as much information as possible that will enable us to relate strengths and weaknesses to their probable effect on teaching performance.

B. Video tape

The second form of feedback which we offer is video tape feedback which occurs very early in the student's teaching experience. Our perspective here is very similar to what it is in the assessment feedback experience. That is, that we're not using video tape in this instance as a direct means of trying to improve particular teaching skills or increasing their ability to engage in the inquiry process. I'm simply trying to say that here we are again concerned with the personal variable.

We show the student the tape of the way he performs in a teaching situation. We start by giving the student an opportunity to react to it himself in a quite unstructured way. Lack of structure in this instance turns out to be pretty powerful. Our students report a very different effect from this opportunity to see themselves than we hear from reports of those whose video tape feedback experiences are more structured; for example, those where the student has been given the particular aim of asking more questions or asking higher level questions. Here we're essentially throwing him into deep water, and we say, "Teach. Teach any way that you want. We want you to teach the way that you think that you can teach best." We're trying to get here the most natural style that we can. I think because we set it up that way, we set up a situation in which the student exposes himself in a fairly maximum way.

For most of them this is the first time that they've ever had a chance to back off, to take a look at themselves in terms of how they look to other people. There usually is a certain amount of astonishment expressed. We've even had students say, "Hey, wait a minute, you must have my tape mixed up with somebody else's. I don't look like that; I don't sound like that!" They then usually go through a very slow process of claiming themselves and they often say this, "Well, gee, I do admit that I looked like that that day." "Maybe it's just a terrible soundtrack, and you know, I always look bad in pictures." Gradually they may begin to say something like, if you will forgive the French, because this is the way they come out with it, "My God! I see what my mother's been telling me all my life."

Well, I guess what I'm trying to say is that for most students this is a very unique experience and a very powerful one. We find that students can be very perceptively and very significantly self critical in this experience. If there's one thing that we do have to take a certain amount of care with, it's that we don't let them tear themselves apart, because they can actually become severely and destructively self critical. Rather than coping in this instance with the problem of defensiveness, we are much more likely to have to balance this up a bit in terms of pointing out to them some of the strengths that are demonstrated.

Burkhart: Now you've said that this is the first phase of your video-tape feedback. You have a second phase that follows this. This is the general one where they just respond and you relate to this response. Do you have a further phase?

Bown: Yes. The video tape feedback session involves the psychologist who conducted the assessment feedback, the curriculum instructor and the student himself. After the initial self-evaluation of the tape in which the student takes the lead, the psychology and curriculum instructors discuss what is striking to them in the tape. Often this constitutes a simple extension of observations the student has made himself, but it may also include perspectives or considerations which are new to the student. We attempt to individualize these sessions as much as possible, and some of them may deal almost exclusively with personal factors, some with interactional patterns, and some with highly technical problems of teaching-learning strategies.

We do a second tape of students in their student teaching, but this is a criterion tape. We often give them feedbacks, and by this time, they are very anxious to have it and to see any differences that might show up. But this is not part of the experiment. The single videotape feedback is it.

C. Placement

Our placement is the third kind of feedback. Students often become aware of their very strong kinds of preferences to go into one kind of student teaching situation, and conversely, their very strong avoidance of another kind of situation. Here they are limited, obviously, because they haven't taught in seven different kinds of schools. We know in some instances that this very strong preference often spots for us a whole area within this teacher that has tremendous implications in terms of a future placement. If it is very strong, if it is set and definite, they usually are talking about a good many limitations. And, we feel that these would be precipitated in a particular situation, so this is a help in diagnosis. Also, we think the picture of students being resistant to change and difficult to wake up and get to becoming alive people is slightly misguided. We think it's the college system that makes them that way.

We think it's we, we jerky college professors, who are off in the clouds and not really attending to them at all as people. We think it's cooperating teachers who make them that way, through the value system which they frequently impose. We think it's the system of achievement via conformity that makes them that way. We have tried to reverse the effects of people by affecting marriages between a student teacher and a cooperating teacher based on the kind of psychological collision that the two are going to have. In other words, the passive, dependent student always latches onto a fairly dictatorial old maid, who gives all the signals in terms of how she's supposed to please her, and the little darling pleases her. The cooperating teacher loves this, and we have a very neurotic marriage which very deeply perpetuates this student's conception of teaching and of how to get ahead in this world. We try our best to cross her up so this doesn't occur. We get preferably a young gal as the coordinating teacher who has a great deal of autonomy, who has not respect for the passive and dependent approach to life, and we put these two together in a bag and we shake it up, and some pretty dramatic things happen. We use our knowledge in this area to make situations which will be as dynamic as possible, so that the student will have the opportunity to continue growing as a person and as a teacher.

THIRD ISSUE: IF WE GIVE THE STUDENT OF TEACHING PRACTICE IN FOCUSING ON HERSELF, WILL IT MAKE FOR MORE RATHER THAN LESS SELF-CONCERN? SHOULD THE LEARNER BE THE FOCUS?

Hite: I have a lot of faith in the kind of thing you're doing, really. And we try to do it too, but one thing does bother me. I really believe that the whole focus of teaching should be on the learner, should be on the pupils' responses rather than the student teacher's, should be on what the learner does rather than what the teacher does. Now, if we give the teacher lots of practice in focusing on herself, aren't we deliberately continuing the thing we're trying to break down?

Bown: I think not. But I agree with you that we are trying to develop people who can lose self-consciousness, who can really become involved in the job they're doing, who can become really concerned about learning and not self-consciously about teaching. Our stages of concern, which is something that we've seen replicated over and over again, through which teachers go, convinced us that the way to get there is not by hopping over these initial stages where the students are terribly concerned about themselves. We think that we get them over these quite rapidly by helping them to resolve those kinds of concerns indicated in the six stages that we designate.

**Six stages of concern:* During the early part of the semester, student teachers' concerns centered on themselves, but as the semester advanced, they became more concerned with their pupils.

Stage One:	Where Do I Stand?	(Here student teachers were concerned with the coming student teaching situation and with *their* position in it.)

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*This material taken from *Mental Health and Teacher Education,* Chapter VII, entitled: "Intensive Individualization of Teacher Preparation" by Francis F. Fuller, Geneva Hanna Pilgrim, and Alma M. Freeland.

Stage Two:	How Adequate Am I?	(Another self-preservation phase concerned with subject matter competence and class control.)
Stage Three:	Why Do They Do That?	(Here student teachers were concerned with individual students, generally the "problem" students and their strange behavior.)
Stage Four:	How Do You Think I'm Doing?	(Some students worried about their student teaching grade, but most tried to discern how parents, supervisors, principals, etc., were evaluating them.)
Stage Five:	How Are *They* Doing?	(At this stage, student teachers were concerned about what their pupils were actually learning, as distinguished from what they believed themselves to be teaching.)
Stage Six:	Who Am I?	(Many *unconscious* interactions between pupils and student teacher were apparent to the counselor and members of the teacher's seminar, but not apparent to the teacher himself—student teacher had areas in which *the class* was "on to him" but of which he was unaware.) To know oneself requires first deciding how much self-knowledge one can bear.

Before pupils' needs and interests could be sensed by the student teacher, his own most pressing needs had to be satisfied. Second, the student teacher's stage of concern emerged as a rough index of his readiness to learn to teach. When preoccupied by a defiant child, he could rarely internalize instruction by university supervisors about teaching concepts, for example, no matter how many lesson plans he wrote.

The Six Developmental Tasks related to these concerns are:

1. Finding security in the total school situation; e.g., knowing school policies.

2. Feeling secure with one's class; e.g., understanding and explaining subject matter.
3. Coping with individual children; e.g., establishing behavior norms.
4.} 5.} Concern with evaluations seem to be resolved only when stage 4 and 5 stage concerns are merged, for they must be able to evaluate their own teaching product, and this in turn requires that they be able to estimate the effect their teaching has had on students; e.g., taking other's bias into account.
6. The "Who Am I?" could not be operationally defined with early groups since too few students were then sufficiently secure in all of the preceding developmental tasks.

Findings on Experimental Procedures:

At the beginning of the student teaching semester, almost three-fourths of the experimental group were concerned primarily with what children were actually learning and their own impact on that learning. In the nontreated groups, only one of the fifty student teachers was deeply concerned with this in day-by-day teaching and covert experiencing.

For the first time it was possible to state in student teachers' terms "stage six tasks" and to begin to specify the developmental tasks of this stage. We have defined eight categories for stage six developmental tasks:

1. Taking into account the characteristics and learning capacities of the class.
2. Specifying objectives in teaching content.
3. Specifying one's own limitations.
4. Partializing out one's own contributions to difficulties.
5. Trying out new ways and accepting the discomfort that may arise.
6. Evaluating one's effectiveness in terms of children's gain.
7. Relating to and evaluating supervisors as colleagues.
8. Selecting a teaching job considering what one has to give as well as get.

Hite: But aren't these false concerns? I don't mean false in the sense they don't have them, I'm sure that they do. But they are in opposition to a role that you really don't want them to take, to assume, as a teacher.

Bown: Well, you see, I don't want them to assume a role. I don't want them to learn by rote a system which puts them through the motions of being primarily concerned about the kids, because I think that would be phony. We want their concern for kids to be genuine, and we think that that has to grow out of a real freedom from these self-centered concerns.

Lierheimer: You're not in a position to move beyond that in the teacher training right now. That's something that you expect to come later, or hope to come later?

Bown: No. We are moving beyond it, and we're really encouraged. The reason we think that we're on target here is that the old program would have satisfied you beautifully, because it was all wrapped up in kids—What do kids need . . . .

Hite: No, it's not satisfying me. I told you in the first place that I agree, except that I'm troubled by the inconsistency of your approach. It seems to be onesided.

Lang: If I can break in for a moment, I think the young teacher there has a dual role. He is both a student and a teacher, and in the sense that he's a student, you should concentrate on his behavior, because he needs to be a student of his own behavior in order to modify it and become a better teacher. From this point of view, as far as the faculty of the university is concerned with concentrating on that student's behavior, it is a student-oriented approach.

Hite: Well, I have faith in it, but I have trouble justifying my faith.

Bown: Well, Ted Lang really gets to the point I am trying to make. One of the difficulties with teacher education is that it has been too primarily concerned with kids and not concerned enough with the student learning to become a teacher. Now, I'm certainly not saying that we should not be concerned with kids, but I'm trying to say that in order to do our best job with the teacher, we've got to move her into the center of the stage. We've got to help her to develop, starting with her concern about herself and gradually moving out to the more mature concerns of a teacher for her pupils. That's different than telling her the kind of role she should play to best suit the needs of the kids. She's got some needs, too.

Burkhart: Now I've been thinking about some of these problems. We could take your system, and we could take Don's system of interaction analysis, and we could take some of the things that we've been working on in terms of the degree to which certain gaps are filled in the inquiry behavior in the classroom, and add Hite's concepts about whether teachers skip or follow through in terms of their objectives in teaching and use these systems as a comprehensive set of instruments. That might give us a powerful set of tools in evaluation. We might be able to get a better grasp of what a teacher needs to learn and determine in a very precise way on what level that teacher is, and what kinds of things that need to be done to help them. I want to emphasize the thought that the assessment instrument is what is important to us. I don't think that your assessment instrument, as I understand it, requires really a psychologist to employ. It could be done by any person who was really a trained observer and was aware of the system, and when locked in with the other instruments it adds significantly to the total.

Bown: The stage of concern instrument surely doesn't need a trained psychologist.

Burkhart: So there may be a lot of practicability in terms of what learning teachers really need. You know, it may save us a lot of time to know where they are and what they should work on and who to work with. I want to make this statement because I was sitting around saying, "What is it that will count for our money?" and it occurred to me that I could finally see it much more clearly. When we see its implication for diagnostic training purposes prior to certification.

Jennings: I think, with all the instruments that we've been listening to and all of the systems that have been described, we ought to realize that the objects of these are very modest. You're talking about young men and women of no experience, who are only embarking on the beginning of their education. You're not talking about teachers, but you use language as though you're describing teachers. Damn it, you wouldn't do this if you were talking about surgeons, and we in education love to use that analogy. Your goal, I think, is modest, and I mean no denigration by that. That's very nice, and it's the kind of thing that I would very much want in the introduction process at exactly the point that you have it. It's a way of getting an opening wedge that will allow us to expose the young people to the genuine potential of education for themselves, and then consequently in their professional career to be committed to their continuing education. Then I wouldn't worry at all about the shape of the future and the kind of equipment and the hardware and the thought-ware and whatever else the teacher has to confront, or whether it's in an urban situation in a dirty slum or it's in the most exciting gilded ghetto that you can find on the ring outside the city.

Burkhart: I want to go back for just a moment. You have a very direct way of dealing with people and their test results. Apparently, you believe in shock. You state it rawly and directly and with as much impact as you can. You don't work up to it, and you don't help people get feedback and say it themselves. You just plain tell them. Furthermore, you're telling us that this has worked.

Bown: Yes, it's worked. More than this, Bob, I'm trying to say that we mean business. We're not playing games. We have a real stake in the kind of person that we're producing, and I think the student feels that pretty quickly. I'm saying that culturally we're all confused about what is really negative in human interaction. I think that to the extent that I'm willing to expose myself in my relationship with you, to the extent that I'm not acting like an omnipotent character but am willing to level with you, and tell you how I see you, I can try to approach you. I try to invite an honest relationship where we roll up our sleeves and try to deal with what's really important.

Burkhart: I get the impression that you could be saying that you give good therapy at Texas and that the students have better mental health. Now where does teaching fit into this?

Bown: That's a good question and a fair one. Let me go on with this, because I think that I need to relate it more or less in terms of what happens to students here. We are not doing this just for the kicks we get out of showing off our analytical muscle. The usual effect of this kind of experience is that the student often says, "Gee, I'm surprised that you could tell that much about me and be that much on target." They may help us revise some of the ways that we're not right on target, which is fine. We welcome this. They usually are rather astounded that we have been able to see them in this sort of depth, but their next question is exactly the same as yours. "This is real interesting and and I'm kind of fascinated with it, but I don't quite understand what this has to do with teaching." Now, it is here that I think we make the assumption that, if a student knows that he's a hostile, sarcastic character, this has obvious implications in terms of the way that he's likely to use this in teaching. That is, in the kind of response that he's likely to get from a group of tenth graders. Our experience convinces us that students do not make this translation, because I will sometimes say to a student rather literally, "Well, I've just said that it looks like you're a pretty hostile, sarcastic person, and you're asking me what this has to do with teaching."

Burkhart: Yeah.

Bown: We usually have not told them anything that they're not fairly well aware of themselves. We are not witch doctors to that extent. Now, when this experience works, we touch just a few important domains in which what they are as a person has some pretty obvious relevance to the kind of teacher they're likely to be, and to the kind of personal developmental process that can be very crucial in terms of their becoming a better teacher.

Kaplan: This is possibly consistent then with the statement on page six of your abstract where you say, "Most student teachers played it smart; i.e., they adapted themselves to the supervisors when they could." I intepret this to mean, "Then they played the game." So what they're doing is playing your game?

Bown: I believe that that statement is an attempt to describe what we found students doing before we found these ways of intervening. In other words, we found this passive, dependent, conformity dynamic very rampant in our student population. This was the system. This is the way that you get through school. This is the way you make good grades, and the way that you get through student teaching is to please the supervisor and please your cooperating teacher. The attempt to please, the attempt to meet the standard, the attempt to come up with the right answer as defined by the supervisor or the cooperating teacher was the game. And I don't mean the game in a frivolous sense, but this is the way that you cope with life.

Kaplan: For example, you may identify the fact that I'm a hostile individual, and you wonder what this will do to children when I teach. What if my response is, "This attitude in the classroom might get the kids to be more probing than they are at the moment, more critical of what they hear and what they see, far more analytical. Therefore, I think that this hostility is going to pay off."

Bown: Well, now if you're saying that what we're doing here is holding up a stereotype, "The good teacher is not hostile, the good teacher is basically interested in kids, that the good teacher is this, this, and this," then I haven't communicated very well. Our desire at this point is not to get them to act differently at all. It's simply to put them in touch with something that looks like it might be important, and the answer to this may not be to stop being hostile at all. It may be that the person needs to be more overtly hostile. It may mean that he needs to discover that his hostility is a kind of cheap substitute for real self-assertion, but we are not in any sense trying to fix their personalities in some sense of, "This is an undesirable characteristic; now, eradicate it."

Burkhart: How frequently do you interview people? How do you follow these interviews up? How do you relate them to teaching? How do groups who have had this kind of treatment compare with groups who have not had this kind of treatment ? You're advocating that we spend an awful lot of money — among other things — train an awful lot of counselors to talk with an awful lot of students. This is a very expensive proposition and maybe requires more psychological depth than we can find staff to do the job.

Bown: I think that there may be many ways to skin this cat, a few more of which I'm going to describe. Frankly, we're prejudiced. We think that something like this has to happen. We think in terms of feasibility, in terms of who can do this, in terms of cost, in terms of time, people, and so on, because obviously we've got to be realistic about finding feasible ways of going about it. In our subsequent work I think we've moved some distance in that direction. For example, when we started out, we had the rather naive assumption that we really needed to make teachers better by simply putting them all in long-term psychotherapy. Well, this is great. It's obviously unfeasible. I'm also convinced that it would probably be an awful ridiculous and wasteful way to go about it, because the thing that we've discovered is that our counseling emphasis has really diminished. When we were first doing this, we had this initial confrontation experience. This was often accomplished only by a good many counseling interviews, which seemed only reasonable in terms of helping the person work through those things that had really excited his interest and that he wanted to deal with. More and more we have learned not to get involved in that long-term counseling relationship, rather we found it better to refer the student to the program, not to a counselor, not to a removed situation off from teacher education, but to a program which recognizes this kind of developmental need and provides a place for it to be worked through. We're fairly convinced that the teacher education experience, recognizing this and organized properly, can probably be a more powerful therapeutic experience in itself than psychotherapy is for a great many people. In other words, as we are more able to find ways for people to interact with the natural day-to-day experience of being a student, of moving on in teacher preparation with room for these kinds of variables to be dealt with in the process of undergoing this preparation, then we are talking about a program which is therapeutic in the sense that it is conducive to learning which is personally meaningful to the student. We don't think that we're talking about the long and expensive process of counseling everybody.

Burkhart: You did remove almost all the courses in the first two years of college that were education courses. You found that very little learning was occurring in these courses. You restructured the program so that you could deal with the students' level of concern. What happens in these last two years to these students ? They've now had more time to be concerned with themselves. You've made some sort of an assessment of them. They've met you and talked with you, and you've given them some kind of feedback. What's the first thing that happens to them that brings them into direct contact with the educational experience, and who works with them ?

Bown: All right. In terms of sequence, you've thrown a lot of things together there. This assessment experience that I'm talking about occurs usually very early. That is, as soon as we get our hands on them which is in the junior year. Actually, the State Department did that bit of rescheduling for us by prohibiting us from getting our hands on them until they became full-fledged juniors — in an effort to protect the young and innocent, I guess.

Burkhart: And you think that that was a help?

Bown: I think it probably was. I think we lost very little. I thought that our earlier efforts were even more foolish than the ones that we were doing in the junior and senior year, because the assumptions there were patently ridiculous. Another thing that we learned, which had a lot to do with the whole restructuring of the program, is that it didn't make much sense to talk about teaching in a total vacuum. Many of the courses that we were teaching went over their heads simply because they had no experience as teachers and could not interact with the information. We could have the most powerful conceptual schemes and teach them all the more complicated forms of interaction analysis and so on; we might as well be talking Greek, because they don't understand the reality to which this kind of thing is relevant. Provision of early experience, I think, was another very important feature. Here we've got a half a dozen programs under way in which we're trying out different patterns of providing early teaching experience. Initially, we did this in a very direct way. That is, we took students in the very first course and put them essentially into a student teaching experience. We rigged the school situation so that the school was willing to stand still for this, and we sent out these totally uneducated, untrained teachers to take live responsibility for total groups in regular classrooms. The most embarrassing thing about this is that so many of them did so darn well, and we hadn't even told them what to do. And this was, you know, a little threatening to us. With most of our groups, we offer a more gradual introduction to active teaching, either within the former observation experience or in a laboratory setting in which the student teaches a group of peers.

In summary, we start with the dynamics of college-age people, proceed to the study and understanding of children and the teaching-learning process through observation and beginning participation in classroom action, and end with first-hand study of the teaching role when the students are actively engaged in it.

designing operational programs that are "worth a hoot"

john hemphill

8

Designing Operational Programs That Are "Worth a Hoot"

"When we have a development that's worth a hoot in the field, we know it can be used because we know it works to specifications — there are no *ifs, ands* and *buts.* Now, this thing is ready for what the people talk about as diffusion or dissemination, a mysterious process that I don't comprehend quite yet, but that has many ramifications. If the product is ready for use, I think that the market will be very hungry for it. Maybe that's been the problem in dissemination — that we haven't had anything to disseminate."

John Hemphill, *Director,*
Far West Laboratory for
Educational Research and Development,
Berkeley, California

ISSUES

One: How does program development operate in contrast to research?

Two: Should we *bug* the classrooms of teachers to study their *normal* teaching and estimate their improvement?

Three: What is the effect of state direction in curriculum matters on teacher preparation, and how does the use of company time (school time) fit into this picture?

Four: Do we have "artist-teachers" in the school, and what is meant by the term?

Five: Do we start performance evaluation by weeding out the unfit?

INTRODUCTION

Burkhart: You know when I first met John Hemphill at the airport, I kept saying to myself, "Gosh, I wish he could be talking with us all now." It was kind of a strange wish, you know, because he kept needling me and making me think about things and feeding information in. Since it's sort of an *uncomfortable pleasure* to have him come here and talk with us today, I'm very happy to extend this opportunity to all of you. Al Lierheimer has known him for quite some time, and I think that he could give the most appropriate introduction.

Lierheimer: John's not going to forgive me for this. What I realize is that John is probably well enough known to you for his writings and administrative leadership in a variety of fields. He's been in this kind of business longer than some of us have been aware of the problem, but the thing that has kept me keen on knowing what he's doing and what he's thinking relates to what Bob said. That is that the kind of questions that he would ask always bothered me, because they were insightful and troubling, and for me it's no fun being asked questions all the time when you don't know all the answers. That's really not much of a formal introduction for a man, but on the other hand, anybody who wants the regular vita on him can get that fairly easily. I wanted to at least set it up so that it was embarrassing enough to John, so that he was really on the spot, because he's done it enough to us. There you are. That's your

the spot, because he's done it enough to us. There you are. That's your

introduction.

Hemphill: That's not at all embarrassing. I don't really know what I'm going to do with the time that they have made so generously available to me here on such short notice. I'm supposed to be an evaluator, and I think maybe one reason that they asked me to participate is that they didn't like my performance as an evaluator.

FIRST ISSUE: HOW DOES PROGRAM DEVELOPMENT OPERATE IN CONTRAST TO RESEARCH?

Burkhart: Well, John, the real reason we asked you to participate was to see how you field the "hottest" questions we can bat in your direction. For instance, as a Director of a Regional Research and Development Laboratory do you find that research and program development activities conflict, and not only as to essential differences in approach, but also, as to their oppositeness in values?

Difference in Program Development and Formal Research

Hemphill:

Although we are called a research and development laboratory, I emphatically deny the "research" component of it, except as an emergency outlet. We're in development, educational development, and I think it's high time education had a development arm. Development is quite a different operation than research. It places the value questions in quite a different way. I think a researcher, and I have tried to be one at times, would like to have the ability, although he never can get to it or enjoy it, of saying that he's not concerned with values, that he's dispassionate. He looks at things as they are. These are facts. The value questions he'll leave to others. I don't know whether we ever get by with it in research, but we try as researchers to keep the value questions at low key. In development I think we have to face squarely questions of values and take positions. It's not a matter of finding out something, but it's making something happen.

Steps in Program Development

Let me go through what we think is how a development in education, or anywhere, goes, as contrasted to research. We believe that one of the first steps you have to take is to get well acquainted with research, find out what man knows about something that you might be interested in, or that you think is important to do something about. There's value questions behind how you get this far, but let's say that you are concerned with, say, better teacher preparation or inservice training. You look around. You find out what is known from research, but that's usually not enough. You look at what is known from experience, and that's a lot more. It's opinion, experience; what man has learned by trying to do jobs. It seems to be a lot more relevant when you're trying to develop an alternative to inservice teacher education, as we were at one point. After you have pretty well immersed, you may have an idea for an invention or a creation. "Here's one way that we might do something about this," you say. This gives you a little bit of a focus.

The Design Stage — Then you start about bringing all the parts into what you might, by analogy to engineering, call the *design stage*. You then design a breadboard model or prototype of what you think might provide a better alernative. This is a trying stage in which you need help from colleagues. You want to talk to consultants, get the best advice, as you move with your ideas. Eventually you shape it up into what we refer to as a *prototype,* or a model of a rough breadboard idea. You then want to try it out in the real world to find out if you've got something that is going to have some possibilities. We would probably take this model out to half a dozen or a dozen of the people who are going to be involved in this operation in use eventually, and say, "Now try this on, and see how it works. Tell us what's wrong with it." And God knows at this point there's plenty wrong with it. You might even give the idea up entirely at that point, and say, "Well, I'd better think of something else." But let's suppose you survive this particular round. You get some good ideas from your critics, and you want to move ahead. You come back to your drawing boards, if you will, back to the laboratory, and you create another version of this based on the information that you picked up.

Basic Field Test—Then, as we see the operation, we go to another field test of the revised model of our product. This we call a *basic field test.* It is a place where we determine whether the thing that we are trying to produce will perform to the *specifications* we've set for it. Now, I've skipped over a lot of steps in the design that I must now come back to. In designing an educational development you must say what you want it to do, and how you're going to know it when it is doing those things. Engineers know this (I wonder about educators). You need to know what it is that this product that you're going to create is supposed to do. You need its specifications. Well, it's in our basic field test that we set up what looks most like research, but that is really a controlled test of the product. The test is not made in the real operating world at this time, but in a very restricted environment where we can have controls and take very definite readings of what happens. We're trying to find out if the product does its job.

Now let's assume that we are successful here. (If we're not, then we would have to re-cycle. We'd have to say, "It missed here and here," and go back to the drawing boards and try again, right through the basic field test.) Let's suppose we're lucky, and we've made it. The product works as we said it would when we set the specifications for it. Now, I believe almost every educational development stops even before getting this far, but the ones that have been given a basic field testing never go on to what is the obvious next step, and that is to make the development ready for operational use. That is, make it so that it can be used by someone besides those who created it. If it can't be, from our standpoint of trying to find a new alternative for education, it's useless.

The Normal Operational Field Test—We have to go to another set of operations. We build the manuals to teach the training materials, everything that is needed to support introducing the development into *normal operation* without ourselves needing to be involved. Once we have solved these problems, we then go to what we call our operational field test, and we do just exactly what we say. We turn the thing over in its "packaged" form to the operators, and we say, "Here. Why don't you try to use this?" When they do, we don't ask them whether it's working to specifications, because we already know that it will. We ask them, "Can you use it? What difficulties do you have? What's missing in the manuals and so forth that tell you how to use the development?" If we're lucky again, we may have something that with some minor patching does not require additional operational field testing. When we have a development that's worth a hoot in the field, we know it can be used, because we know it works to specifications—there are no *ifs, ands,* or *buts.* Now, this thing is ready for what the people talk about as diffusion or dissemination, a mysterious process that I don't comprehend quite yet, but that has many ramifications. If the product is ready for use, I think that th[illegible] for it. Maybe that's been the problem in disseminations—that we haven't had anything to disseminate.

Now, I've used the word "product," and I say that we are a developmental laboratory, and I talk as if what we do is produce products. We don't want to give the image of an objective or something concrete. A product, as far as we're concerned, can be a system in which a process is involved. We use the word "product" in the most generous sense, of something concrete enough to *talk about,* but it doesn't have to be *hardware.*

Burkhart: You've just mentioned "inservice education." We haven't been speaking about that up to now. I thought that since you've spoken those words, you might talk a little bit more about what you have done in inservice education.

The Operational Inservice Mini-course

Hemphill:

Oh, you're excellent. That's just the necessary cue. We have been in existence for a reasonably short time. Although we have several things in process, we've been successful in getting only one small thing through this process in two years. I'm not apologizing for that. I think in a sense we've been figuring out how to do the development job. We have a lot of other things that are in the mill, but let's talk about the one that is through, what it's like, and how it's relevant to what's going on here. At the same time I'll say a little bit about the value problem, because I have to, if I'm to answer your first question.

What we have through an operational field test (that means that we know that it works to specifications, and we also know that people can use it) is a short course we call a mini-course for inservice teacher training. This specific one has to do with teaching teachers to use questions effectively in discussion lessons. It's a rather small segment of teacher behavior, but we picked it because it looked like an easy one to begin with. There is some evidence that at least there is some good opinion about what type of questions work most effectively in producing learning in discussion lessons. Now, we are not oriented in this particular case to prove our course effective by changes in the students' behavior. We're interested in change in the teacher's behavior specifically in the way she asks questions.

Program Objectives—We specified twelve objectives that we wanted to accomplish. We noted the ways we thought that we could accomplish these changes in teacher behavior. We set the limits. For example, let me talk about one. It's been frequently observed that teachers in discussion situations talk too much. Many monopolize the discussion and really use it as a platform for a lecture. Now this is not always true, but in our basic field test, we had forty-eight teachers, and the first thing that we did was to ask them to teach a discussion session in their own classroom with their own children. We put a video camera on them for twenty minutes and got a basic line record of how they performed. They talked (as we determined as we observed these records later) about fifty-six percent of the time. This was a little less than some of the studies from the literature which suggested that some of the teachers talked seventy percent of the time. We must have had some better teachers than average in our basic field test with respect at least to this performance. I say "better," because I feel that fifty-six percent of the time is still too much for an effective discussion lesson.

Defining Objectives by Setting Performance Limits—We have worried about what the proper amount should be. We don't think teacher talk ought to go down to zero in a discussion situation, but "How much should she talk?" We don't know, and I don't think that there is any evidence that, in terms of the effects on learning, would give us the value of this parameter. But for our development, we said about twenty-five to thirty percent is what we are shooting for. This is the type of thing that we did for all our twelve major objectives — to set limits, performance limits. To reach these limits takes certain things. For instance, we wanted to teach a teacher not to answer her own question, which in a discussion situation seems to be a little ridiculous, because if you want to lecture, go ahead and lecture, but don't confuse a discussion section with a lecture. The value that we wanted to achieve here, was in a sense, zero; that is the limit we set — *zero.* We wanted to drop this behavior out. Well, we went through each objective and set our specifications in similar terms.

Format for Mini-course—We developed some materials that we thought might get teachers to change their behavior in the directions provided by the objectives. Let me now talk about the format of the model for the mini-course. The course consists of a lot of materials. We used anything that seemed like it would change these teachers' behaviors. We were intrigued by the micro-teaching model. It has a lot of good psychology behind it, as far as human learning is concerned. It provides feedback, immediate feedback, and a chance to try again. And then some more feedback. This makes, from a learning-theory view, pretty good sense for training complex behaviors.

The Content of the Mini-course—Essentially, the mini-course model provides an instructional film in which certain concepts are presented. It suggests to teachers very specific ways of behaving, to cut down, let's say, their talk, and to increase that of the student. It gives her a whole raft of very specific techniques. A lot of these come simply out of the experience of teaching. We adopted them from experienced teachers. (I don't apologize for that, or for the fact that that's not been researched. I don't think that it could have been researched. I'll get to that a little later.) We put these things together in a hard-hitting film. We found very early that we tended to cram too much into a single film. One of the outcomes of our preliminary tests was that we found we had too damn much in one course. We cut it back to make it sharp. We find it's difficult to get teachers to see the behavior we want them to gain control of, or to learn, but we have to work on this. They view this film. They then are asked to prepare a discussion lesson to teach the next day to a small group of their own students.

Discrimination Training—Now, in order to help them do this, not only do we have an instruction film, but also a model film where we show a good teacher modeling the behavior in a real classroom situation. It is in a sense a part of the instruction film, but at this time it's in the full setting. In our instructional film, to train teachers to discriminate the behaviors they are to learn, we make them sharply visible. We may shoot the scenes in a studio and dramatize them very markedly. In the model film we show a teacher doing these things but in a normal setting. It's part of the *discrimination training* that we're trying to accomplish as the first step.

Video Taping of Small Group Instruction—Since this is inservice training, you see, teachers have children available upon which to practice what they are learning since they are teaching at this time. We make the mini-course a part of the school's ongoing activity. So we ask teachers to bring in four or five of their students to this place where the video tape equipment is set up the next day, and they teach the discussion lesson trying to use the principles that we've been teaching them with the instructional film. The students come in with their teacher who teaches this lesson and it's video taped. She returns her children to the classroom. We must provide, as you would recognize, a substitute teacher at this point, but this is part of the whole operation.

Steps in Video Feedback—Then the teacher sits down and views her video tape. The first viewing is just to see herself. We don't give her any particular instructions except to "Watch how you did it." We think this is important, because of some indications that teachers are a little anxious after they've been on video tape for the first time. After the first viewing, they are instructed to rewind the tape and use a checklist that is provided, that very systematically has them judge their own performance with respect to behavior that we are trying to teach them. Next, we ask them to prepare another lesson, to teach it, to try to improve, to develop better these skills.

Second Lesson and Peer-team Evaluation—In the second go around with the microteaching, teachers bring a different group of children from their classroom. They follow the same procedure, including a guided critique of their own performance. Then, they are asked to bring in a fellow teacher to view their tape with them. This is a peer taking the course at the same time. We tried to get at least four teachers in a school teaching the course at the same time to make a full day for the substitute teacher. If we have four teachers, running together, there is a buddy around. We think that this is important, because, if she is willing to accept someone else to sit down and look at the tape with her, they can critique one another. This means that their views of the instruction is not quite so idiosyncratic. They can see things differently, and they get a more generalized view, but you note (I don't know whether you note, or not, because I didn't say) that this is the only time that anyone else is involved in their training. This is absolutely outside of the supervisory hierarchy.

Non-supervised Experience—We think this is vitally important: that experienced teachers who are trying new things which they have never done before and are developing new skills have a chance to do so before they are reviewed by the administrative structure. We've tried to develop our courses so that they are self-contained, not only for this basic psychological reason, but also because we need to serve the rural areas where they don't have supervisors. (Maybe fortunately, I'm not sure.) Anyway, there is no supervisor involved in this par-

Values and Research on "What Teachers Should Do"—Well, our course is made of three or four of these three-day sequences, each section of the course taking a very small section of the total twelve behaviors. In our basic field test, we have discovered changes in teachers' behavior which when reported, I'm sure my colleagues (and I've been in research a long time) are going to call me a liar about. They are not only statistically significant, but they are significant in themselves. They are big changes, and in the direction that we wanted to go. Now, we say "in the direction that *we* wanted to go." One thing that I want to make clear here about values is that we're not dodging the values. We say that we believe that these are things that teachers should be able to do, and we tell you specifically what they are. If you disagree with us, you should not use our course. We hope that, in the long run, we can get enough courses together so that it is sensible to do some sort of validation of our value judgments against student learning. But we don't want to relate the result of a course in questioning to achievement in arithmetic. As we get a system of courses developed, we would expect the kids to learn more arithmetic, but this is a long-range object of a system of courses, not the objective of a single mini-course.

Lierheimer: Why do you expect that?

Hemphill: Oh, I think that teaching will be better, and I think that better teaching will produce more student learning. But I don't think that a teacher learning how to use questions in discussion lessons should be validated against students learning to do arithmetic. That's what I'm saying. It's not that I want to avoid, necessarily, the student learning criterion, but neither do I want, as I suggested earlier, to accept it without question. There may be another possibility or two and many that I haven't thought of, but I've thought of one possibility so I know that there must be another.

Hite: Don't you want to test teacher questioning against pupil responses?

Burkhart: He can answer this quite simply. What was the ratio of talk this time for the teacher, and the change in the questions?

Hemphill: It went down about (I don't know) about 30 percent, I'd say offhand. It's twenty-some.

Burkhart: And you were getting much more student response?

Hemphill: Yes. You see the students' answers were twice as long.

Hite: It's the nature of the response, not the number of the responses I'm interested in hearing about.

Hemphill: They had twice as many words in each one. The amount of conversation was greater. What I'm trying to say is that we don't have to be apologetic about working on teacher behavior, because in most cases it's an interacting behavior and with students. When you talk about interactions, there's two ends to the action. There's an actor, and there's a reactor, and if you change one, you have to change the other.

Medley: John, was there anything else in this course, in addition to what you told us, about the kind of questions that were asked and so on?

Hemphill: Other Related Findings—Oh, yes. There's twelve behaviors including one where the teachers try to get the students to ask questions that could not be answered by a single word of simple response. We didn't want them to regurgitate information in a discussion situation. What I'm really saying is, you could look over our specifications for this course and, regardless of what you wanted to value, you could say, "Well, I don't want my teachers to be like this, or I do." We are trying to provide a way for a teacher to acquire a skill. Now, we know that she can acquire that skill, and in a reasonably short time.

Evidence of Persistence of Learned Behavior—Now the skeptics say, and we've said this to skeptics of our own work, "Will the changes in behavior persist?" We actually tried to find out. About four months after the fiirst training series we were able to locate thirty-one of the forty-eight teachers who had participated. We took the camera back to the classroom and got another twenty-minute sample of teaching behavior. The answer is that it does persist. In fact, on some behaviors it continues to grow. There is very little evidence at all of deterioration. In fact, we felt badly, because we had worked up a refresher course, but when we tried the refresher course, we found that it didn't do any good because the teacher didn't need refreshing.

Other Models Being Tested

We don't see the Laboratory role as a mass producer of mini-courses. We're testing this model of instruction for inservice education at the present time by trying to build courses in various areas, to see what the range of application might well be. For example, one other course that's coming along quite well is a course to teach kindergarten teachers to organize their classrooms so that the kids will work independently. The teacher could then have time for dialogue, or one-to-one relationships with children who need her attention. Now, that just gives you some idea of the contrast in the kinds of things we're trying. We're merely trying these to find out what the model can accommodate. We know that it can't accommodate everything. We have underway a second model that is entirely different. It might be very briefly described as the mail order, or correspondence model, where we are using video tape recordings. We have critiquers at the Laboratory who receive recordings of participating teachers weekly, review them, and send back comments on them. Now that is perhaps a better model for some applications. We hope to develop several models of inservice teacher education over the long run. We are not jealous at all about people moving in and manufacturing mini-courses side by side with us, once we can get things set up so that they can do it. I suspect that education's need is four or five hundred of these courses developed in the next five years.

Hite: I want to come back to the inservice thing again, John. I really think that this is a big thing, very important. I think that this is where much change in teaching behavior really occurs, informally, not through planned inservice programs. It does seem that what is done in the college in preservice, what's done in student teaching, is only accidentally related. It really isn't. What's done in student teaching, for instance, is only accidentally related to what happens in the first teaching experience. Now, logically, there ought to be a relationship, you know, but the problem is beyond the scope of an institution because the teacher goes to so many different locations. There is a kind of administrative problem here. I don't know how you feed to somebody (I suppose it could be to you Al, or to the regional laboratory, but to somebody other than the institution, other than the school) who could have maximum effect on shaping teacher behavior. They could develop some way of relating what was done in the continued training of this teacher to the earlier objectives and training. I submit administrative problems here. One of them is time, like you mentioned, and time would pay off. For instance, can you really plan the time of the so-called student teacher, the beginning teacher, and the experienced teacher in such a way that they could interface, in such a way that they could all continue their education?

Hemphill: Three colleges and universities in our area are trying this thing out in preservice education. It'll probably work there. We focused initially on inservice education, for among other reasons, because we didn't see any other way of really getting the necessary speed in changing for the better by working with beginners. You have to work with entire teacher populations. I think you've got to recognize, as has been said here and I think we all chorus, that a teacher who stops learning ought to be removed. So it seems that inservice education has certainly got to become more important as the rate of change in education accelerates.

SECOND ISSUE: SHOULD WE *BUG* THE CLASSROOMS OF TEACHERS TO STUDY THEIR *NORMAL* TEACHING AND ESTIMATE THEIR IMPROVEMENT?

Lang: The real question that we have is, "In her normal teaching environment, will the teacher continue to behave in the way that we know that she can, if we ask her to show us?"

Hemphill: Now, I'm not awfully worried about the problem. I know that others are, but I want teachers to get control of behaviors, so that they can display them when they want to; and if they can do that, I'll leave it to the other people to determine what occurs in the privacy of the classrooms. Besides it's hard to find out what does occur in the unsupervised classroom.

Jennings: Why don't you bug the room?

Hemphill: Well . . .

Jennings: Well, you do anyway.

Hemphill: It's been suggested, and it's revolting to me. I guess it relates to my value system. We must maintain relationships with our teachers. I don't want to bug their rooms. Can't I simply say that?

Lang: Why don't you tell them that you're going to bug the room sometimes, and they won't know when you're bugging the room. You can avoid the ethical question.

Hemphill: Maybe.

Lang: . . . and get their cooperation.

Jennings: I don't want to seem facetious, but how many rooms are now wired for sound and two-way communication anyway? And how many places do you have where somewhere there is a control room where you can push buttons and listen in? Just build this into the normal atmosphere of things. It's a hardware problem.

Burkhart: What's important here is to know that we are focusing on the system, not the finding in the sense that it's a research. We need the system, and he's telling us that if we provide self-instruction as well as self-evaluation, and if we're careful in the type of programming that we provide, this privacy may be of an extremely important nature. Now there's another question that I want to ask.

Jennings: Let me respond to myself one step further. For a while I was very proud of a new tape recorder that I got. This was going to do a lot for me. It was going to let me listen to myself being foolish or making sense. The novelty wore off rather quickly, and what I regretted was that there was no way of having this thing readily available whenever I felt the need of it. I wonder if as a variation having a room with built-in video-recording equipment . . .

Lierheimer: Would the teacher be called up?

Jennings: So that any time the teacher wanted she'd say, "I'm hot, or cold, or lousy, or something;" press a button, and then later you'd have your notations.

Lierheimer: That's a very good point because sometimes a teacher would know exactly when she wanted to call on a chance to review her behavior.

Bown: This is being worked on, if this is any comfort. We don't happen to be doing it, but there are school systems, for example, which have been buggd with the permission of the administrators and teachers.

This can be controlled then. For the first time we are in a position to study the reliability of these samples that we take; to get at how much off-on effect we're injecting and to see if the samples on which we base some of our instructional procedures are actually a true sample of the way the teacher teaches when she's not under pressure to fill up categories, or ask questions or whatever.

Burkhart: You know, when computers were first put in, people said, "Well, we'll only need them this many hours." Then they got to "twenty-four hours," and then they got to "always," and then the whole damn thing just grew, you know. It was just an amazing growth of an element of an institution. I'd like to see what would happen if we put in one of these rooms and allowed teachers to use it. You know voluntarily, when they felt like. How long would it take before they couldn't volunteer for it anymore, they had to fight for it? And how long after they had to fight for it, we had to wait before they demanded more and more time for getting to these rooms? I think Jennings self-evaluation video room is a powerful concept and is certainly preferable to his bugging advocacy.

Hemphill: Let me go ahead, because I want to make another little point here. The question of why you don't bug the system has lots of parts to it. I mentioned one. I don't like the idea, but that's not all of it. Another part is hard for me to take too. At the Laboratory we must decide how we deploy our limited resources. It's very much of the orientation of the developmental lab. We can't allow ourselves to be intrigued by following up on research questions. Now, if this is a research question, and it is, I would like to give it to the university and let them bug classrooms. I believe that it is more important to get another mini-course, to develop our system, to make many more alternatives available. This is one of the reasons why I don't want to bug the classroom. We simply want to keep our eye on the ball.

Medley: I'm just kind of concerned about that idea that because we've taught a teacher to use a tool, we should check up to see that he's using it. Suppose you'd trained a carpenter to use a hammer, would you want to go back and see if he was using it when you weren't watching him? He'd use it when he was driving a nail. If he's got a nail to drive and a hammer to drive it, he'll use the hammer when he thinks that he needs to. If a teacher can conduct a good discussion, well . . . " but let's leave it to her to decide when she needs a discussion.

Hemphill: That's comforting, but not completely so, because we don't know, using your analogy, that the carpenter really knows how to drive the nail with the hammer unless someone's watching him. We want to find out whether, if he's unobserved, he uses the proper way of driving nails with hammers. And we define the proper way. He might be able to get the nail home anyway, but we want to know if he does it the way we taught him to.

Medley: Now, I think you're going to find this: if he puts his nails in straight, if after he's done, he's got all the nails in, then, by this analogy, the students have learned.

Hemphill: That's student behavior. Sure.

Medley: Well, that's the proper place for determining the answer. Bugging's not going to be that useful in informing us about student learning.

THIRD ISSUE: WHAT IS THE EFFECT OF STATE DIRECTION IN CURRICULUM MATTERS ON TEACHER PREPARATION, AND HOW DOES THE USE OF COMPANY TIME (SCHOOL TIME) FIT INTO THIS PICTURE?

Lierheimer: One of the questions that never gets dragged into this, and I don't even know if it's appropriate, is what does a school curriculum have to do with all of this business, and to what extent does state direction in curriculum matters have an effect on teacher preparation? Now there are those in the State Department who feel that they spend a lot of money on outside help, specialists and so forth, to develop the keenest curriculum that is necessary for our use today. The next question that they ask of us is, "Why aren't the colleges preparing the teachers to do this?" Now, the kinds of things that we've been talking about, like training teachers to do questioning or affective behavior, don't have anythng to do with a specific curriculum that somebody wants to inject into kids. And, who provides the time for teachers to relate curriculum to their learning about pupil instruction?

Hemphill: One of the things we are planning to do is build the mini-courses for direct implementation of new curricula. This is one of the tests of the range of this model. I think it's fair to say, not very kind to say, but fair, that the new curricula, that we see so much of, are only half-baked, when you consider the model of development that I've talked about. There is little or no operational provisions built into most new curricula. You get a new curricula when the originator believes that it is complete (or has lost interest in it), and then it is thrust upon the schools, but God knows that schools can't do what they are supposed to do with it, in view of the originator's objectives. I think this is a real problem, a national scandal almost; somebody should get in here and see if they can influence policies about where money goes into development. A little more of it should be put in on completing some things that are now pretty well down the line. They're half done, but they ought to be completed.

Jennings: John, there seems to be an implication back of this specific mini-course which might have revolutionary, if you will excuse the expression, implications. There is a presumption, almost, that a group of classroom teachers can come together, eventually even under their own direction to decide on company time thank God, that they will undertake the governance of their professional behavior. Eventually this includes their looking at the received curricula and saying, "This in our professional judgment is not adequate to the task." You're going to have new job descriptions written there, after a while, if this happens. You're going to have teachers taking full professional responsibility for the running of their shops. You're going to have them evaluating each other. After a while, you're going to have a grievance machinery necessary to establish the new relationships that will emerge between the teachers in the schools and their trade union representatives, or the teachers in the schools and you people, or the teachers in the schools and the superintendents and supervisors and the rest. Pretty soon someone's going to be out of some jobs and maybe we will get rid of some of the necessary redundancy in the job market in education. What I want to see is company time used to this purpose.

Hemphill: We insist, as long as we can insist, that this may not be too long, on certain kinds of things before we will let a person use our materials. When they become widely distributed, we know that we can't control their use. But maybe we can set a pattern. We might be able to build the courses, so that it is not possible to use this except on company time. You've got a real problem finding kids to teach if it's not on company time. We set it up on company time in our operational testing, and it works fine. All the so-called objections that the administrators have to getting in a substitute, and all these sort of things, disappear when we give them blueprints on how to do it (a part of the operational package). I don't think administrators are so prone to object, except that they don't like to work, and if you give them a way to do it, you've got half the battle won.

FOURTH ISSUE: DO WE HAVE "ARTIST-TEACHERS" IN THE SCHOOL, AND WHAT IS MEANT BY THE TERM?

Jennings: I think we have an interesting, and maybe even an instructional, model in the informal, almost guild-like, associations among artists in whatever medium. They seem to keep informed. They seem to get information into their network with fast feedouts, at speed levels and with efficiency, and a lack of, or absence of, redundancy and with a quality of information unlike anything we have in education. Maybe we ought to pay a little more attention, especially those of us who think that teachers can be or should be artists. I'm thinking just about that way of absorbing data and being willing to risk yourself and your experience with the medium you're using. And artists (I have many friends that are such creatures, and I try to behave that way myself) take on something new in facing the challenge that might destroy them. But they're willing to take a chance with this. In education, we tend to look around first for the cheapest insurance policy.

Lierheimer: I thought the difference might be found in why some of them turned out to be artists and some of them turned out to be teachers. The mystery of, you know, who diverted down these paths and at what point did they make this separation?

Jennings: Yes, but that becomes interesting biographical material, not responsive to what it is that they do; the way they do that, in model terms, could be explained.

Lierheimer: Other than it had to do with selections?

Jennings: Yes.

Burkhart: I'd like to bring up something that Don Medley said. I've been reading his papers. (He's long forgotten them, but I have a fresh memory of them.) He said that we really don't need Shakespeare to write out where the laundry is, you know. I think we want to think about artistry in a different way. Artists who are teacher-artists are not the people with whom we are really concerned. Al has the lowest level of concern.

Lierheimer: Thanks a lot.

Burkhart: He is only concerned with whether they are just going to be completely incompetent. He'd just like to know that first. Is that right?

Lierheimer: Pardon me. Right now I'd settle for that. Yes, that's the first thing.

Burkhart: As a necessity . . .

Lierheimer: Right.

Burkhart: I heard a conversation related here. "Could we just pick up a list of those things that a teacher absolutely shouldn't do. And if they continue to do these, we could just get them out of the system." The difference between that, and that of the artist, is an unbelievable distance, because we may get these technicians in here, these people who are reasonably skilled and maybe not artists, but who can carry on their function more successfully. When we get to the artist, and we can identify him, then maybe he needs to be a master curriculum organizer.

Jennings: Look, then what you do is you build into every school a confessional box, and you go in and beat your breast.

Burkhart: No! It isn't that.

Jennings: No. Please avoid the business of saying that we're looking for an artist-teacher.

Burkhart: I'm not looking for that. I thought maybe you were.

Lang: Why do you avoid it ?

Jennings: Because then you're going around denigrating yourself and saying, "Oh, if only a teacher could behave like an artist."

Burkhart: No. I don't think they should, because our area is art education, and we've been working with artists for a long time, and I have no desire to make teachers behave like artists.

Shore: Only artists can behave like artists.

Jennings: You tell them.

Medley: What the word artist means in this context, I take to mean someone who operates in a mysterious way that we can't explain.

Jennings: Oh, no! Please, no!

Shore: There's nothing mysterious about using a brush on a piece of canvas.

Burkhart: Yeah.

Medley: Well, a good artist. A housepainter and an artist differ in the fact that an artist paints a good picture, and we don't exactly understand how he does it. If we could understand art like we understand physics, you could program a computer to paint a masterpiece. It could become a scientific process. If you need a lot of people as we do (and we do, we need quite a few teachers to staff our schools) I don't think that there's any kind of an artist that occurs that frequently in the population. My own belief about artists is that they are born. We've got to develop a technology, a science. To get enough teachers and to get good enough teachers, we've got to take people who have no talent for teaching at all and make teachers out of them. There's only so many people in that barrel, and the people with the high aptitude for teaching aren't going to go down very deep in that barrel. Then we've got to go about five to six times further down to get enough. That's what teacher education is for—to take these people here who don't have this gift, who aren't born teachers, and maybe the recruiter wants to recruit these gifted people, these people who are creative and original teachers. I think this is where differential roles may operate effectively: making more effective use of the gifted, the talented, the creative teachers that we do discover; and, making effective use of the technicians, the apprentices, the guy that mixes the paint, all these people.

FIFTH ISSUE: DO WE START PERFORMANCE EVALUATION BY WEEDING OUT THE UNFIT?

Burkhart: Right. I think that this is a good point to turn our attention, if we can, to this question, because it's certainly a related problem for us. We've thought about inservice education. We've thought about the levels that we're going to have to go through to build, if we think of his model, this evaluative system and to test it out. It's quite clear in my mind, that right here we have the beginning parts, you know, to begin to put this system together, to think about doing eventually what he is doing now in his inservice training material. And it's going to take a lot of hard work.

Hemphill: I don't think that we have enough pieces around to make a very good evaluation system right now.

Burkhart: No.

Hemphill: I don't think that we ought to wait, however. The thing about development work is that you can't use that as an excuse for not moving. If you have a problem, you have to solve it. And even if you don't know enough to do it, you go ahead and do it anyway. Now, this is what I suggest should be the approach here. We don't know enough to do this, but we know that it has to be done, and let's do it anyway. What could you do first? Well, I suggested to Al over a drink last night, and that may in part account for the quality of the suggestion . . .

Lierheimer: I was sober when I received that suggestion.

Hemphill: The idea that I suggested was, he might start at the State level by simply requiring that schools and colleges send to the State a very detailed plan of the way that they are weeding out the unfit. He could run at this level for a number of years, putting some resources, if you can get them, into the development of some of the ideas about better ways, but running for a while with this as his model. This would provide a great amount of feed-in into the development of the better system, one that's going to have to go. You'd begin to make people think about, "What is unfitness? What is it that disqualifies a person from being a good teacher?" The question of going the other way, of defining what a good teacher is, seems to me to be out of our reach right now.

Lierheimer: Yes, and it may not be the State's business. That may be the local business.

Hemphill: I wouldn't want to agree with that. I think that that is the State's business, but I don't think that the State can do much about it right now.

Lierheimer: All right. The State's business may be to work with the place that can do it, whose job it is and give them the necessary support for doing it, but working at this other end. Even in your cups, John, you have good ideas.

Jennings: One of the responsibilities of the State is licensure, whether it be for driving automobiles or teaching in the classroom, and it must. Again I refer to the Hippocratic oath—at least weed out those people who might do harm.

Hemphill: Yes, but what I say is, the State should simply take the steps in saying to each school and each college that is preparing teachers, "Think about it seriously and send us a definite plan, and we're going to check up to see what you are using to weed out the unfit. We want to know how you're going to do it. We want to know that you've thought about it. We want to know that you're doing something about it."

Lierheimer: But you gather this information first. You don't do it and then say, "Well, we don't like the way that you're doing it," or, "We do like this way." I think John's notion is that you could begin this tomorrow, use your same crummy system or some modification of it now, but at least gather this and feed it into the right places so that you will begin to get a body of evidence. You say, "This is the way that people are making decisions." You begin to see some common elements in it.

Hemphill: I think what I see, Al, is more than "This is the way they're doing it." You would start a lot of thoughts in process about how you can do it. This is going to have more benefits than just a little.

Jennings: As soon as you pronounce some one kind of behavior as deleterious to teaching, you've got a minority problem on your hands.

Hite: Not only that.

Lierheimer: You mean all the people that have it?

Jennings: Yes.

Hite: And you have made an assessment.

Burkhart: I would say, wanting to move up, that we're going to have a more positive total program than this "getting rid of the unfit," because I would like to do some other things.

Hemphill: Well, my prediction is that the same thing is going to happen to you, as you try to move in on getting a good system going, that happened to us. You'll probably have too much in it at first, and you're going to have to prune it back to something that's feasible. It won't work because you're overloading it at the start. You've got so many good ideas about how to do this thing, that you want to put them all together in one big pot and then solve the world's problems real fast. I suggest that you take it a bit at a time, put a floor under the system which goes in the direction you want to move. All of you encourage me, and everybody else, to do all the research and development that we can to move the thing along.

Hite: I don't think your suggestion . . . . The more I think about that, the more worried I become. I don't think that that's a small step. It's as much as asking them to state how they define the behaviors . . .

Hemphill: I'm not asking the State to do it. Did I make that clear?

Hite: No.

Hemphill: I said that the State demands from each school and each teacher preparing institution that they provide a plan for weeding out the unfit, and that's all they do. Then they look over these plans. Where someone hasn't thought about it, hasn't done a good job, the State would go back and jack them up a bit, and that's all their role is for the next year or two.

Keller: What about the thousands of teachers who are already serving?

Hemphill: This is why I say the schools, not just the preparatory institutions. All the schools tell us how they are going to get rid of those who shouldn't teach.

Keller: You're well aware then of what tenure is?

Hemphill: It makes me mad, but I'm aware of it. I would like to put you on the real practical question of "How are you going to get rid of a teacher whom you don't want who has tenure?" Don't tell me that it can't be done.

Bown: I think that this is a very powerful suggestion, John.

Hemphill: It can be done.

Bown: Because I think it's really taking us into some really important complications. This is one of the things that, in a sense, we've been up to in our own way, with all the limitations and idiosyncracies of our approach and so on. Our whole psychological admission system is aimed in part at this, and it has worked . . .

Hemphill: I recognize that.

Bown: . . . in part, in this way. It has done some weeding out, but perhaps the most significant thing that it has done is, that it has forced us to recognize that we are indeed dealing with some people who are in their present state unfit. It has simply made us aware of this, and we have to deal with it once we look at it. And I think most institutions just simply ignore this. We get together at meetings and gripe about it, but when it's in process, when we're in the business of producing failures, we have ways of very neatly ignoring it and setting up a set of standards. If they can get through those, which often have nothing to do with the nature of the real failure that they are going to become . . .

Hemphill: I submit that this process is to some degree an operation, but at a level that it ought to be moved up a little bit. That is, I doubt that any school district, regardless of tenure, would allow a teacher to consistently come to class drunk.

Jennings: Both higher education and industry do confront some aspect of this problem, and they do solve it rather clumsily but with some effectiveness. Here is someone on a college faculty who is a problem. Whatever the problem is, you can't get rid of him or her, but you might push him in a corner where he might be unhappy. But the unhappiness is private. They don't teach any longer.

Hemphill: That's right.

Bown: They become deans. (aside)

Jennings: And in industry you buy up the contract. You retire them faster with holy glory.

Hemphill: You create another vice president. I've seen cases in point.

Jennings: At that level, it's almost only a question of money. Make the taxpayers pay a little bit more for past errors committed, in part, by them.

Lang: We are moving into the area of the assumption of responsibility by the State Education Department, which in turn, if they followed your suggestion, would direct attention on the part of the school districts and the teacher preparation institutions to their job, which is to see that those who go into teaching — or those who stay in teaching — are competent to teach.

Hemphill: Right.

Lang: Now in that sense, therefore, I feel that we've taken a giant step from some of our earlier discussions, because here we begin to take responsibility and to take steps to this end. Now we do it, I'm sure, with reservations. We do it with cautions, and we know that the product of the teacher preparation institution cannot conceivably, in our day and age, be qualified to be an excellent teacher when they start. There has to be a large range of ability which would permit a teacher who is not competent to start teaching, because the competence has to develop with the experience of teaching and with the inservice training.

Hemphill: Yes. There's something about this that goes a little deeper. I've worried, at times, about the total problem of evaluating educational alternatives or innovations as they are now called. I'm utterly flabbergasted sometimes, when I talk to someone about evaluating his innovation. I ask, "Now what evidence would you accept that your project was a failure?" It's just a complete blank. They have never given that a thought. That couldn't happen. I swear unless you can tell what is a failure, logically you can never know a success.

Hite: Well, doesn't that really say, you know, that your suggestion, which I like, is really a major question? It's a major problem. It's just the reverse of saying the other.

Hemphill: No, it isn't.

Burkhart: Could you tell me why you like his suggestion a little more?

Hite: I like the idea that you're placing the responsibility on the institution in a way beyond something like counting courses. In visiting institutions for our State Department for these six or seven years, the most sensitive area is the one that you've pointed to, and it's where, I think, the greatest malpractice in teacher education exists. I think the capricious decision by people in professional education about who shall, who shall not, become a candidate for teaching is harmful. I don't think it's the elimination that's harmful.

Lang: Why does it have to be a capricious decision? Why can't it be a judgment? And why isn't it possible in what the institution develops in response to the State Department of Education inquiry?

Hite: But that's the big distinction.

Lang: Why isn't it possible to develop some kind of safeguards? You could have a grievance machinery for a student who is being eliminated, so that he can go through a series of courses and see whether he could improve. Why must we think solely in terms of cutting off the incompetent person? This has not been the direction of our thought for the past two days. We are seeking to get rid of the incompetent, but that might be by changing his ability from incompetence to competence, or raising the level of his performance so that . . . .

Bown: Making him competent.

Lang: I think the teacher preparation institution and the school system first, if they take this challenge, must move to identification, and then to a course of conduct from the identification. No school system could get away with a cut-off-their-heads approach. I think that there would have to be a more sophisticated approach, which would include safeguards for the student of the university, or for the teacher in the school system. It would include, certainly, a great deal of training approaches before you would get to the point of dismissal. I think a lot could come from this chance remark and observation over a cocktail.

Hite: My objection was that this is a nice, convenient, simple place to start. This was the inference. I think it's very complicated.

Lang: I know, but the fact that it's complicated doesn't mean that we shouldn't address ourselves to the challenge.

Hite: No. No. (affirmative)

Medley: Well, Jack Coonan has made the point that it's much easier to tell a bad teacher than a good one. When a bad teacher is poor, she makes her mistakes all the time. When you go to visit a good teacher, he has already established all his relationships, and you can't understand how he's done it. But a poor teacher, you see him repeating these bumbles.

Hite: That's a different question, Don.

Medley: Is it?

Burkhart: We have "bumbles" out in her junior year — or first semester in her senior year — in a student teaching situation. I can remember situations here. Our staff can certainly remember them. We

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actually taped these people, but we didn't have to visit the incompetent people three times. We had to visit them eight or ten times. The problem is that when we make the decision that somebody who has spent all this time in an institution, three and one-half years, and many thousands of dollars, is now not competent, and can't receive a teaching certificate, we don't have a route for them to go, a place for them to move. This is a major problem, and one of the reasons why it takes a lot of courage for the ordinary supervisor to fail anybody. He just can't find any other alternative for that person.

Hemphill: Well, if you want those people who are not prepared teaching your students, you can continue this way.

Burkhart: Well, I know, but I think that we can fail them. We have been.

Jennings: You can't cook the meat without a kitchen.

Burkhart: Yes, I know, but we've got to find some intelligent ways of looking at the whole process of how they got there to begin with.

Hemphill: I think a lot of things might start going in every direction from this kind of input. The universities are going to be a little more careful about what kinds of students they encourage to get into teacher education, because they aren't going to be interested in getting into these tough problems about these kids who are likely to fail. They're going to set some standards. They're going to be a little more careful because of this side effect.

Hite: Will they wipe out all the beards and the mini-skirts?

Hemphill: They might. I don't know.

Hite: Now what's the relevance of that? This is just the practice inning.

Hemphill: Well, I don't know. Maybe they'll learn that this is not necessary if they wipe them all out.

Lang: Well, the State Education Department might have a comment to make in an advisory fashion to the institution that was doing it, but if we don't look at the problem, if we don't recognize that there is a responsibility, then nothing gets done about it. I imagine that the most significant thing that we can do is to identify the problems and draw attention to them and take the first step.

Lierheimer: Now, wait a minute.

Hemphill: I don't really believe that what you suggest will happen, because I think once they consider the possibility of using that criterion and its effect, they'd decide not to use that.

Lierheimer: It's like this business that Len was talking about.

Hite: Well, they better not take a chance.

Lierheimer: Well, you tell the teachers, "We're not really evaluating. We're just helping you look at your own behavior." This is what you are doing to schools, too, when you say to them as you're gathering the data, "We're not really evaluating you. We're just trying to get you to look at your own behavior." Then they say, "Now they're really trying to evaluate us." You are trying to turn them inwards to look at what they are doing and find some better justification for it, and, if that's their only justification, the beards and so forth . . .

Burkhart: You tell us it's the easier road for the State, but you want us to take the harder one. Do you want to come to a value commitment about what institutions you want to certify and make some of the statements on this basis? I mean, if we're going to fail teachers, then you should be failing institutions.

Kaplan: John, can I ask you a question? I don't know whether you're inferring this, but I'd like to press you on it. Did you infer that teacher education is not really establishing any good criteria for who goes into it?

Hemphill: I'm out of date. I haven't been on a campus in so long that I wouldn't want to state. I know that at the time I was on the campus, that would be true. By simply looking at the entrance exam scores on intelligence and tallying them up, you could see that, I would say, generally, they take what's left after all the other things are taken care of. And I mean that business, commerce, is down there pretty well too, but education is even lower. Now that's twenty years ago.

Lierheimer: Well you only have to go back a few years and that still might have been so. I don't know the extent to which it is so today. You don't have to go back that far.

Kaplan: You're talking about the time when I got in.

Hemphill: It's a matter of fact. You could find out.

Kaplan: Well, I'd like to. Dr. Robison, would you comment?

Robison: There's a myth that prevails, of course — that when you admit a student to an institution, and the time comes for his admission to a major area, that you first fill up the allocated number of slots, you know, in the so-called prestige programs, and then what's left over becomes the gleanings for education majors. I don't know how valid that assumption is.

Burkhart: The college is not alone in its problems. I think we're talking here not only about evaluation, but also about the evolution of an independent kind of institution, which is going to accept more and more assessment responsibilities. As time goes on, because we are involved in carrying these ideas forth more fully than we do now, the student teacher, the intern, and the inservice teacher will be able to come in and say, "I'm ready to be certified for such and such," or "I would like preliminary certification now for a job; I think I can meet performance standards," or "I would like to go through a series of those tests and have someone assess my competency." Shortly, we are going to be involved in many extremely tight types of things. We're going to have to develop instructional systems; we're going to have to develop evaluators; we're going to have to work on role definition; we're going to have to develop a new kind of principal. We have a great many new things that we must do. And, you know, I can see troubled looks here, but I do believe that this is going to require some organization beyond our existing boundary lines for these purposes.

The evaluation institution or center probably will not be located at any one place, but it will nevertheless constitute an independent organizational system for certification, that can bring perspective to all those highly complex certification problems.

Lierheimer: Why do you want to do that? What's it go to do with . . .

Burkhart: It's got everything to do with whether these things succeed for us, because, if you stay out there in Albany, and we stay out here in Buffalo, and Bill Keller stays out in his district, we're not going to have any development center which will do the kind of things that you want and need. That's why one of the things that is absolutely essential sometime soon is to have a group of highly coordinated people working together to bring these things about. We're not going to be able to do it alone. We've got to know how to organize, if we are to find a way to solve these rapidly growing problems for which we all have so many responsibilities.

answering the challenge of certification

alvin lierheimer

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Answering the Challenge of Certification

"I would say that we don't really have a choice of relying on the system that we have, because the system that we have really isn't any system. I would not want to use that as a backup while we do something else. I really think at this point, the chips are down. You have to move ahead on this thing or give it up entirely."

ALVIN LIERHEIMER, *Director*
New York State Division of
Teacher Education and Certification

ISSUES

One: What is it specifically and operationally that the State needs to do in the next five years.

Two: Who determines the definition of "good" teaching as it relates to performance on the job?

Three: How can performance evaluation be coordinated on a statewide basis?

Answering the Challenge of Certification

INTRODUCTION AND STATEMENT OF FIRST ISSUE

Lierheimer: The easy part of our job has now been concluded. Have we achieved the primary goal of the Symposium? Perhaps the most unique and important part of the Symposium occurs as we move from ideas, from being informed, to actually doing something worthwhile, which is to develop a feasible design for action. *If* you agree on the merits of evaluating the performance of teachers, *then* I am going to ask you to help me answer the question with which I am now faced. *"What is it specifically and operationally that the State needs to do in the next five years?"* Now, that means starting tomorrow.

REVIEW OF BACKGROUND

Let me give you a little background. In our department we have been convinced for some time that the way State Certification now exists in terms of course counting is really poor for two basic reasons:

1. Certification through course counting is too far distant from the teacher in the classroom. It needs to represent a decision made about teaching made by the direct assessment of the teacher in the classroom.
2. It's a maximum of input which occurs at one end of the teaching-learning experience without giving any evidence of whether the person can put *out* anything at the other end as a teacher.

Now, after examining the system in respect to these fundamental faults, our judgment is that it is not really good enough to be worth continuing. It seems to us it isn't any good at all. We've known this for some time. But our past discussions usually end up with people saying, "Well, we really don't have anything better to suggest, so you're going to have to stick with what you've got." That's why we are where we are. We've been without constructive alternatives. A session like this has given us more possibilities which if crystalized need to be further defined and clarified, could really come up with a concrete substitute.

The department is committed now to some change in certification over the next years. This much has been established, that commitment has been reinforced during this Symposium. We are going off the system we are on now. We want to move toward something which more clearly resembles a measure of how a person teaches, and we want this done through a close working combination of the schools and colleges. The assumption is that the evaluation enterprise has to be managed jointly. This represents, then, our present convictions concerning certification.

In the process of getting a certification scheme that is a little more related to reality today, we have gathered a lot of information about how to tell if a person can teach or not. John Hemphill's proposal during our last session is one good starting point. An index of teachers' behavior which would be indicative of *incompetency* certainly ought to be useful. Still, I wouldn't want people to think that we would back into certifying teachers by saying, "Here is a list of ones that we *won't* certify." However, such an index is a way of gathering essential evidence on teacher performance. It is also something you could begin doing tomorrow. If it can be done, then it must be done without threatening anybody directly; its value lies in producing some practical standards for the State to hold for minimal competency. Such evidence is essential, since we must define the standard by which we are going to say *yes* or *no* about somebody. Standards of this sort have been nebulus or irrelevant ones up to now. Ask a college, for instance, how it decides which students cannot go into teaching. How do they decide who *not* to recommend for a certificate? The classic answer, the one usually given, is, "Well, our admission standards are such that we only take in the best, so that obviously practically nobody is dropped out." And experience with repeated numbers of colleges has shown us that they don't have any very solid answers on this question of how you drop people out of teacher preparation. Now, if you were to ask that same question to the school-college combination, you might get a little different answer. The answers are different when you go to school districts and ask, "Which are the institutions whose teachers you've turned down, and why have you turned them down? Why haven't you employed them?"

One starting point in the formulation of minimal standards for the certification of teachers and teacher institutions might be the consumer viewpoint of the school district. To achieve this, it seems important to consider the educational managers at the local level, especially the principals, since they form such a critical element in whatever kinds of arrangements you make for performance evaluation. If they support investigations into the performance evaluation of teachers, it's fine. If they are not for it, forget it! I wonder if that isn't one of the first groups with which we must begin.

We have covered many of the problems in bits and pieces, but when you talk about performance behavior, you need to state your specifications for achievement. Is there agreement on what you want teachers to achieve? What a teacher *is* cannot be fitted into a definition which holds to a singular concept of achievement. Teacher achievement is multidimensional, and the definition problem is multileveled. I think you've got to determine a range of evaluative schemes you would permit; more than one will certainly be necessary. If all you do is substitute *one* very fine scheme based on performance evaluation for the one you've got now based on courses completed, I'm afraid you would just be trading one form of rigidity for another. So how *does* the State decide on the acceptability of an evaluative scheme?

One factor which makes this whole session much more appropriate and less unrealistic than it would have been some years ago is the projected change which may occur in the supply and demand for teachers. The projections seem to say that in the early '70's, we're going to see a better balance. This makes it all the more important that we begin to develop now some ways of deciding who *not* to keep.

If all of a sudden you have an excess of teachers, some of whom should not be continued on the job, how are you going to select from among them? Hopefully, it will be done on a less subjective basis than exists now. The need to measure people by performance is critical in this respect. This, I think, adds a sense of urgency, even though that supply and demand picture at the present is only a projection. But, if the estimates are borne out, we'll need to be ready for some hard decisions about acceptable teachers.

What I'd like to do now is give the participants a chance to respond to the question, "What is it that you propose operationally that we do in this State in the next five years?" Anybody want to begin with a suggestion?

Hite: First, I would urge you to consider shooting for what you really think is a good State program and not to assume that it can happen overnight. If you think that the way to go is to have teacher education based on performance objectives of this kind instead of courses, then perhaps the place to start would be to urge individual combinations of institutions and schools to begin pilot studies. Second, I've come to believe pretty strongly that in the last analysis, no matter what's done in the way of State standards, you have to depend on the integrity of the individual institution to state the basis on which they attest to the competency of this teacher product of theirs. Here we now say, "Write it down, and then let's talk about it and see if it can be used to judge success in some individual cases." This is done not so much for accrediting purposes as for determining whether or not their standards are really working and whether their program provides sufficient training. An example of this kind of dialogue occurred a few weeks ago. One issue that was pretty critical in many of the colleges was the portion of the guideline which said all teachers, regardless of level at which they are teaching, shall have depth in a subject field. This depth is interpreted to be the equivalent of a major in an academic field, and it shall constitute about 35% of the four-year program. Now, all institutions agreed to that over a period of several years of discussion, but, when it came right down to it, they found all kinds of reasons why it really didn't apply to the elementary teacher candidate. However, when we came to a point in our dialogue that said, "Is this really what you mean? Do you mean that this array of 'how to do it' sort of courses constitutes this depth?" Well, the confrontation led to some bloodshed, but it was a way of bringing about some change. Certain kinds of performance standards can also be applied to course offerings right now.

Lierheimer: It's much easier to have a set of rules that you can administer and say, "You've got it. You don't." Dialogue calls for a very different role on the part of the State. It means that the State has to have a staff who will ask questions that are hard yet will not necessarily produce continuous antagonism. The questions must be penetrating enough to cause a self-assessment on the part of the institution and its personnel. One of the critical needs of the State is to find the funds necessary for talking with colleges and school districts about performance behavior and assessment of teachers in relation to the development of new ways of approaching certification. That kind of money may be available, through the Education Professional Development Act.

Burkhart: Since change is required, I am concerned about the need to develop some kind of design that permits us to change roles as institutions, as well as to define those roles and changes that are needed. If the school district, the State and the college are to work together, one suggestion is that this can be done in evaluative development centers. These centers must be coordinated so the work is not scattered, and so that there is on-going evaluation and some meaningful test of the total system. People, both college and school people, who are desirous of evaluation need workshops now, you know, tomorrow, and they need exposure on a rather wide scale to the problems of performance evaluation. It is not easy to learn to think in behavioral terms. Our whole educational drive has to be in this direction, because the school system and the college are used to not thinking in these terms. So, this has to be almost a first effort.

Lierheimer: Remember also, however, the caution that John put out earlier saying, "Don't put all your eggs in this performance basket, because there might be some other baskets around." I'd like to leave room open for much experimentation, too, so the people can develop some alternatives.

Burkhart: I heard John's statement, and I agreed. We need alternative systems. However, he said, "Don't put all your eggs in one basket by just thinking that the student is the primary criteria for the measurement of teacher learning." But, he didn't say to not look at the learning process and be objective about it, and to not state criteria for it and to not define it specifically. This is what I'm saying; that we must develop this as a new habit of thought. I'm pretty certain we are going to have to move a very large group of people, who have been primarily judging subjectively, to a feeling that they want to and can evaluate performance with some kind of objectivity.

Lierheimer: What Bob says is perfectly true. There are very few people around who have learned how to look at a situation analytically in terms of what is actually happening. That includes those of us who are in the Department working in this field. This is a rudimentary technique that has been done primarily in research operations. I'm not sure how much of it has been translated into the regular day-by-day teacher education program. If you were to go around and take all the teacher education students in five colleges, how many of them would have been trained to observe behavior in any kind of analytical fashion? I'd guess not many.

Would you say that one of the things that we ought to do within the next five years is, along with John's suggestion, to ask the schools and the colleges what their criteria are for evaluating people? Should we ask what specific behaviors are to be looked at as performance indicators of these criteria?

Burkhart: This is one of the places where I think John is coming in pretty well. He says there are some definite needs, and maybe what we need to do is not develop a fixed system but a graduated system. Then we could say, "Well, here are five needs." For example, we would like a teacher to be able to get pupils to show initiative. Now, with the statement on any criteria such as this, we can build towards an instructional system to aid teachers in doing that. And then we don't lose our teachers — we might strengthen them. We should start with just the priority needs, following the pattern John used to designate some of the things he felt were needed nationally in teaching. This means that a group of people have to sit down and designate those needs that they perceive as minimal in the teaching act. One need might be enabling the teacher to work with one individual instead of the total class. There might be several of those kinds of needs that we could settle on rather rapidly.

Hite: There's the need he mentioned for some kind of close collaboration between the institutions which in fact do have responsibility for the way a teacher performs. It is apparently true that what the teacher learns to do in the college is really not very much related to what they do when they work in a school. It would seem that the logical thing to do is to get these two agencies to work together on the same effort. They need to try to direct themselves toward developing the same objectives. Therefore, the State might pursue this business by requiring that when a college and school move into stating the specifics of performances, they provide the evidence which shows that any statements about what the person shall demonstrate have been arrived at jointly. Now this would be just a kind of mini-step maybe, but it would at least constitute a declaration of united intent.

Lierheimer: On a trial basis, you could give institutions joined like this the power to make a recommendation for certification, and say, "We'll give a certificate if we can see evidence that performance objectives are being used, and if we see that they are cooperatively developed for the evaluation of teachers during their training and immediately afterwards."

SECOND ISSUE: WHO DETERMINES THE DEFINITION OF "GOOD" TEACHING AS IT RELATES TO PERFORMANCE ON THE JOB?

Medley: If you could afford to develop a good performance instrument and administer it to every teacher who wanted to be certified one way or another, you'd probably have more constrictive effects on the teacher education curriculum than you now have by counting courses. Now, when you count courses, stated curriculum purpose sometimes affects only the name of the course, so the teacher has some freedom to do what he wants to do. If you're going to come in and judge the students on the basis of certain performance criteria, then that's the curriculum which would have to be taught. This is also a big danger. The rigidity could become much more extensive than it is at the present.

Hemphill: This might be a problem, if we knew that we want that specifically. But, we're talking about training for a job, and we don't even know what the job is. How could we set any training requirements when we don't know what we're talking about? You've got seventeen suggestions on what a teacher's role might be, and we keep talking about teacher training. We may not have one training problem, we may have many. When a wide variety of alternative models can be employed, rigidity may be avoidable.

Medley: Yes. If there was some good measures of teacher effectiveness, we'd solve this problem in a couple of years. There isn't. As John said, we don't know what a *good* teacher is, and we do have many different ideas of that role.

Hemphill: I think the problem is not that we don't know what a "good" teacher is, but that we know too many things about what a "good" teacher is. From these we could construct a *good* teacher in any way that we want to. All of us have said, "This is the way a *good* teacher is to me." And I don't think that there's anything that you can do about that, except to jump off from that standpoint.

Medley: Does Al want to certify the kind of teachers that *I* like, that *you* like, or somebody else likes? Is that the kind of thing he wants?

Hemphill: He should certify the kind of teachers that I like, and I should be held accountable in their teaching for why I like them. And so should you for the kind you like.

Kaplan: You describe the person you're going to hire, the person you're going to prepare. You describe him and say, "Here, this is the kind of person I need, and, I believe he is a good teacher."

Lierheimer: All right, you describe him. But taking an extreme, suppose you describe a real nut, and you know that ten out of eleven people would agree that he is a real nut. Should the State then say, "He looks like a nut, even if the college doesn't think so! Somebody's going to have to make the value judgment.

Hemphill: Either I'm going to make that judgment or you're going to make it, Al.

Lierheimer: I want to know on what basis it should be made.

Hite: Well, he's given you the basis. John says in effect, "I will tell you the kind of teacher that I'll turn out, and I'll try to describe this in a way that is meaningful to you. Now I think this is a *good* teaching." If you don't agree, then your responsibility is not to authorize me for the training of teachers for State certification.

Lierheimer: What standards does the State use to accept yours and reject his . . . .

Lang: Even if the State accepts his teachers, and even if he has developed an instrument for measurement, he still has to test that instrument and systems procedure to see whether, in fact, it does distinguish among the teachers being trained. That's what I think you must do, John.

Hemphill: Oh, I don't know why I have to do that. Why do I have to do that?

Lang: Because you may develop an instrument which is unreliable and invalid. Why should I allow your instrument, if it has no validity?

Burkhart: Performance evaluation is the first step. Validity requires (as you may be thinking of it) years of research by persons quite different in their purposes from those in most training institutions. Here the question operationally is, "Does the system seem to be working or not? Are we getting the kind of teacher we want?"

Kaplan: If I wanted to hire the kind of nuts he produces, how would the State prevent me from hiring them?

Medley: I think it would be good if we got off the notion that's implicit here, that when we give somebody a bachelor's degree, he's a teacher. He is not. He is ready to begin to learn to be a teacher in the school. I'd be willing to take a respectable college that could give a defensible definition of the teacher they're producing, and, if it looks reasonable and sensible, let them go ahead and produce these teachers.

Lierheimer: Suppose we agreed to that. We'll get these colleges to tell us what it is they use for standards when they prepare a teacher and to say how they tell whether it's working or not, etc. Suppose we say okay to a group of colleges — only if they were working in close conjunction with some schools — and we give them five years to try this out. How do you begin to construct something which would measure success?

Jennings: I wonder if you're not getting into a really regressive argument here. If you're after some kind of performance criteria, first of all, this presents you with an employment problem. Because performance criteria costs a hell of a lot more than the kind of stamping that you're doing now. But if you want performance criteria, it is not really critical what those people do in schools and colleges. They'll turn out some kinds of products for you so you can see them on the examination line. In the schools, this works after a fashion in New York — sometimes good, sometimes bad — depending on other kinds of pressures. It works fairly well throughout the country in different kinds of systems that have, in effect, a kind of on-the-job training and examination. It occurs when you put the kind of three-year stamp, or whatever it is now, on them.

Kaplan: I believe it parallels the idea of temporary certification and a final certification.

Jennings: What I'm saying is that it is not quite as critical as it appears to be in our language here, but it allows us to ask larger and more pertinent questions about the education of teachers, not as teachers, but as people. It can allow you to go back to the liberalizing education or whatever fancy label you want to use for the undergraduate experience, so that out of it comes people who are conceivably capable of life-long learning.

Burkhart: I think I would start in the worst way instead of the best way. I would have the State make up a list drawn up of those things that they felt were minimal, positive and negative criteria. They would publish this list, send it to every college and school district and say, "These are what we think we would like to certify people on. These are the best values that we can make a commitment to at this point. If you'd like to discuss these values and these systems, we'd like to talk with you. If you think they're upsetting, and you want to modify them, okay. Right now we're making a commitment to these, because these are the things that people who have tried to study the situation say are reasonable for a minimal level of certification. Come and argue. We'll set a dateline on which arguments are going to be over, because we're going to start to take action. If you want to act with us, the door is open, if you don't want to act, sit."

Bown: I want to talk about an exception for a minute. Most of us who have tried to take a hard deep look at teachers have a peculiar kind of thing running through some of our papers and results. And that is our most burning concern, interestingly enough. It is not with a group of teachers that are rated as low in our various ways of classifying them, nor is it with the highs. We don't know how they got there. They're people that we can't quite attribute to training. The group that really concerns us is that group which on charts gets labeled average. Now these are people who can cope with minimum standards very well in any of the institutions which take some kind of responsibility for them. They're adequate copers, they're adequate adapters, and some of us see them as the most deadly element in education. Now I'm not trying to be a slick college professor who changes the subject. When we talk about certification, I think we are often preoccupied about how we clean out the really inept people. But I think somehow that education's basic problem is doing something with this vast middle group that we're never going to catch in any selection mat. We're never going to catch them in any kind of evaluation, no matter how much research we do. When we're considering certification, we need to be concerned with that middle group, because they are the next majority of our teachers.

Lierheimer: Even people who come straight through a college program must pick up courses to continue. They could be held accountable for certain kinds of performance, before they were given a final certificate. You people are saying that we ought to try experiments; do some trials in which, colleges and school districts describe, to our satisfaction and that of a group of advisors, their schemes for telling whether or not they were preparing teachers well. We might even give them the framework for these schemes, by saying, "These are the kinds of things we think a successful teacher ought to show; some place in your scheme you probably ought to keep these in mind." We ought to give to these school-college groups the authority to go ahead their way and say, "We'll buy whomever you recommend. But, we'll hold you accountable to tell us after a period what your results are in terms of *how* these people work, *how you know how* they work, what evidence you used to come to this conclusion, what the schools think about it, etc." We could do this on a trial basis and do it very soon.

Lang: Isn't that possible now to a substantial degree? Because, don't you now allow a university to design a program, and in the design of that program you wouldn't interfere if they were working with a school system, you would encourage their working with a school system. The new element would be that in such a unique program you would want a period of successful teaching before you would give a final State certification. I think that would be a new element.

Lierheimer: But you would have the school district itself required to participate in a different fashion than it does now. The school district really is a day-to-day trainer of the teacher, and the college has a different type of know-how to contribute to this entire operation. The difference would be in the type of marriage, this type of union that would verify performance as an outcome of operational teamwork has taken place.

Burkhart: This would be certifying institutions on an abstract process level rather than on specifics like courses, or even sets of objectives. Maybe it's the level of certification that's been bad, the level which specifically states that this course or this performance or standard is what is necessary for teacher certification. That's been the position. We have been saying here that it's not the specifics that we're going to look at, we're going to look at the way the institutions are operating as a system. The processes they are employing, especially the evaluative ones. It's this process that we want to further. I think this is a shifting, from a concrete of specifics to an abstract level of evaluative processes and their appropriateness, that becomes under this system the essentials in institutional certification. This allows for much more institutional self-determination and possibly for less rigidity which was our initial concern in raising this issue.

THIRD ISSUE: HOW CAN PERFORMANCE EVALUATION BE COORDINATED ON A STATEWIDE BASIS?

Hemphill: Al, I'd like to come back and make a proposal slightly modified from the one Don and I made three years ago to you. I want to modify it, because you pointed out some objections to it that you discovered in those three years, or knew at the time, perhaps. It might be something that might be feasible for the State to do that recognizes the kind of state of confusion we're in and may be in for some time. How about setting up the so-called *Teacher Assessment Center* of teacher behavior, bringing samples of students and teachers from these various programs that these various colleges would be authorized to pursue, evaluating these with the best available instruments under the best circumstances. Bring in teachers and samples for a couple of weeks and give them Medley's treatment and all these treatments. The center could act as the place which would further develop the measurement of teacher performance; as a place which would begin to accumulate the evidence as to what kinds of programs work and in what ways. It would not be a control device. It would serve to recognize that you may in time want to have some basis for setting standards and controls. Just frankly recognizing right now, which I think is clear to anyone if he wants to admit it, that we don't know how to do this job now.

Lierheimer: What you're describing is a data gathering bank.

Hemphill: This will be a research study in a sense.

Medley: It's a bank for two institutions, the college and the schools.

Hemphill: It will be a bank to the institutions which would be able to tell them how they're doing with respect to a set of standard measures that apply to the various programs. It would also be feeding in the best of the research and development that gets done in the meantime in this area in order that this basic information could be furthered. I don't know what it would take to run such a center, but a couple million dollars a year budget would do a wonderful job here.

Medley: Yeah, you could manage.

Czurles: I wonder if all those things would have to take place at the assessment center. Suppose you had an agreement between two or three colleges or more — I don't know, some colleges and some school systems — to put together some different kinds of teachers, and they used this assessment center as a resource kind of thing for setting it up, so when they have tried this out they could see what kinds of impact their particular brand of nuts make educationally. I'm thinking of the assessment center as being a resource center also, for certain kinds of developmental activities, the outcome of which could generate feedback into the profession itself, and could generate some knowledge, if the assessment center is decently staffed.

Hemphill: I don't even see that the center has to be at one particular location. It could be scattered about the various universities, but it would have to be coordinated as a center and run in a kind of organized way, not just a bunch of projects. I don't say it has to be all physically located in one building.

Lierheimer: You're saying that we ought to have some place in which some pilot projects are underway. Then you look at them and begin to analyze their activities and make some kind of sense out of it.

Medley: You look at the product.

Burkhart: That's the coordinating institution I was mentioning earlier, and that is central to the whole thing. That's the institution from which people who will train teachers could learn an awful lot through apprenticeship practice in doing assessment, and then move slowly from training positions out to these leadership position in the schools.

Hite: I think this is a very intriguing idea, but I can see one objection.

Lierheimer: What is it, money?

Hite: Yes.

Medley: It would be cheap at the price.

Hite: Oh sure, it would be cheap. But you can see what would happen if an institution developed a program from objectives for the training of teachers, and they get the teachers to demonstrate these kinds of behaviors and describe objectives. Then at a later time these teachers are assessed by other objectives, by other criteria. They'll raise the question of relevancy. I don't say this would defeat the idea of the assessment thing, but it will result in conflicts. If I were in Al's place, I think it would be dynamite to be using this center as a way of describing the adequacy of the product.

Hemphill: I didn't suggest that you do it that way. You learn about *how* you might do it, or not to do it, as a result of this. I guess my original suggestion was to set it up and do it, but now I've taken that part out of it. He should just learn about *how* it might be done to make it more profitable.

Bown: We're saying kind of indirectly that most teacher education institutions at the undergraduate level, at least, have very rarely engaged in any kind of follow-up study of their product. We are very concerned about how they look, and what we do to them up to the point of graduation and certification. But then they dissipate out over many states, so we don't do much about their results. We've done a little bit of this through our follow-up work. It's really opened our eyes. We were doing this as one way of trying to evaluate what we were doing right. Actually, as we began to learn, things began to change so rapidly that it was very difficult to hold anything still. But this is in one sense, exactly what we want to do.

Another one of the problems, though, is that some of the products we would describe as our best products, when placed in certain systems, could not survive. Some of those products, that we would describe as our very worst products, survived in such systems all too beautifully. And here I think we have the disjunctiveness that comes about in value systems. But I certainly don't think we're ever going to solve this unless we somehow get it exposed — describe it in a way that it can be openly discussed.

Lang: I think the complexity of the problem indicates the significant need for the research which would be coming out of an assessment center. I spoke earlier about the validity of the instruments, and I don't think any assessment center worthy of its name would design an instrument which they didn't test and validate by longitudinal studies into the careers of the teachers. So I think part of the pattern would be that there would be these follow-ups, and the fact that different viability and different school systems exist is also part of the complexity of the problem. But certainly the people who would be operating this kind of sophisticated system would be cognizant of that and would be working with the multiplicity of test instruments and follow-up studies that this requires.

Jennings: I know that we would develop from this just what Al is looking for, mainly a minimum standard for entering into the teaching profession or for staying in the teaching profession. I certainly believe that we would develop some very valuable insights into the teaching profession, and I'm confident that we would develop very good training materials.

Kaplan: He was also suggesting that we would have a vehicle by which we could study what we do and continue to the study of what we do.

Lierheimer: I think the evaluation committee has summed it up. I think we've gotten a lot of answers to the question which originally is, "What could the State do operationally in the next five years?" I think that things have come out pretty clearly. They're not in terms of hard and fast standards, but in terms of things that you could do within five years. You would have some better notion of standards for determining what a teacher is or what a teacher does.

CONCLUDING EVALUATION

Burkhart: We have recognized that the evaluators' function is different from that of the participants'; it is their responsibility to have a larger perspective and to leave us with that perspective, so that we feel that we know a little more about what we need to do. Frank Jennings, as the chairman of the committee, should lead this portion of the session. Do you have a statement you wish to make?

Jennings: Bless you. You know, I'm reminded that the first symposium was held some 2,500 years ago in suburban Athens, and it was a love feast which degenerated rather quickly into a semantic quibble about the language arts curriculum in old Athens. I was impressed by the unique opportunity that has been given—or foisted upon—all of us here, to participate in providing some sort of end-run assistance to our beloved State Department and to do for the succeeding generations better than was done by some of us. I'm tempted to use those vulgar words "awesome responsibility." It's just plain terrifying. Generally, it seems to me that educators, all of us, are guilty of misplaced modesty. Every single one of us at one point or another these past couple of days has confessed that we do not know what a good teacher is. Yet, every single one of us pretty regularly in our careers, while they were attached to making decisions about who's a good teacher and who's a bad teacher, made these decisions without any equivocation whatsoever. All of us who have talked with colleagues, for example, I talk a great deal with both public school and private school people, principals and headmasters who have no confusion at all in their minds about who their good teachers are, who their poor teachers are. Mind you, never bad, just poor. However, they won't specify their criteria in any manageable way that any of you people would be willing to rush through a grid. You can't quantify what it is they employ as a basis for making these kinds of decisions. These judgments have been arrived at on a basis, first of the experience of the administrator, and secondly, as a result of a rather long association with the individuals. In other words, a performance test always goes on. I suppose I'm saying, "Sure, we have performance criteria. You know it. I know it," but this "sorting out" language is almost supersonic, because we can't use the ordinary systems of talking to each other about it. We've assured that you know, and that I know and that we know, and that's the end of the discussion. Nothing more need be said. But, then we're confronted by your challenge, someone is going to put this on paper. Someone is going to run it all the way through the legislature and a few other places. Then money is going to become involved, and then the careers and lives of the future teachers of our State and hopefully of our nation are going to be involved, so now, it must be put in words. That has been our task.

Still you know when Ted Lang gets back to Brooklyn on Monday, he's got a payroll to meet. He's got problems to confront. He's got a shop to manage. Now again, I'm not copping a plea here, but there is the day-to-day business of taking the term accountability, for example, and translate it into "How many rolls of toilet tissue does P. S. 92 need next week?" or, "How are you going to get a replacement for that guidance counselor that copped out?" That's one piece of it. But you have confronted us with the challenge of making this explicit as part of the laws of certification.

So there are the nuts and bolts, the vulgar realities of day-to-day life that have only to do with economic survival and this kind of disorderly profession of ours, and now there is the challenge of this symposium which says that the opportunities that we have to do better than we have done are increasingly presented to us. Unfortunately, we are almost always in a crisis atmosphere, and we try to get past that, but now we have had a little time to buy for thinking purposes. And I think that some of our discourse here has been eminently well focused in this direction.

This added comment, you know education does have this one factor over any other profession. It has a capacity to tolerate disorder all out of proportion to its historical assignment. Teachers are changing as members of a profession far more rapidly than I think they have in the whole history of education. I'm not claiming too much for this. Partly, this is a result of their discovering ways to join together to make a common cause against all of their oppressors and to negotiate labor-styled contracts which are binding more on one party than on another. (My brother would have me bite my tongue for that.) But quite seriously, teachers are demanding, as other groups in our society are demanding, a role in the process of not only decision making, but of house building. In my peculiar double-gaited role as an editor of the *Saturday Review* and as a foundation executive, I pick up little pieces of information, perhaps sometimes a little quicker than you people, simply because I have either a window on the world for them or a hand in the till. Recently, I have learned, for example, that there are to my knowledge three groups of teachers in three school systems: one on the east coast, one on the west coast, and one in middle America; that in their most recent contract negotiations demanded and succeeded in having entered into their contract the right to not only participate, but in fact to take a major role in the shaping of the curriculum. You want performance criteria? I mean, if they're going to make their own bed and lie in it, maybe it should be a performance based bed. Do I hear any reactions?

Czurles: We talked today about a teacher facing in one direction, facing the students. She is a professional teacher then, but not a professional educator. If she is to be a professional educator; she should face both ways, and on the basis of what she saw happen on this side of the coin, she should turn around and challenge the behavior of systems, whether it's the course, or a curriculum, or certification, or length of time, or something else. The profession, if it is a profession, must grow from within, not from somebody on the outside legislating its direction. We are concerned about the poor teacher, and the good teacher, but we are also very concerned about making the teacher as professional as possible, so that she is continually contributing to an evolution. At present, she may have to break some barriers when she backs up and looks at teacher colleges, at certification, at curricula and something else, but until she is equipped to face both ways, education is not going to be changed. It will be frozen at the top.

Jennings: Thank you! Now, I'll go over to the firing line. Ted Lang and I are natives of the same city, so tell them, Ted.

Lang: Speaking first, I think, really gives me a benefit, because we on the committee have been discussing our thinking, and I don't think we're far apart. Some things I say may take some of the ammunition away from my colleagues. We have reviewed a number of presentations going in the direction of teacher performance, and I would like to make one observation. I don't know where this kind of generalization falls on your chart, but there are some essential similarities in the presentations. Those similarities are: one, that all have feedback to the student teacher or the teacher; two, all have structure, whether it is a grid or a checklist pattern; three, all tend to give a self-confidence to the practitioner who is using them, and I think that derives in part from structure and in part from confidence in whoever developed the grid or the instrument; four, all emphasize self-evaluation on the part of the teacher, and I think that this is essential for the professional. In his lifetime, he should be evaluating himself as he goes along. Also, I think that there is some difference in the way the presentations handle the element of supervisory evaluation and the element of evaluation by the college faculty. I think that the viewpoint with the concept of nonevaluation or nonassumption of responsibility by college faculty has a danger, because it becomes easier for the school system supervisor to use the same instrument and to say, "Well, you evaluate yourself." Then the school system supervisor may also get off the hook of his responsibility as the evaluator of the teacher. There I see a danger, and I would urge that it is the responsibility of the college faculty to prepare teachers in a responsible way. They, therefore, must take a direction. They cannot be permissive. They must state their values. They must set a direction. I don't think setting a direction is necessarily stating a formula. No one would propose that. But what is important here is the development of a direction which would be flexible and have ample room for the personality and character and abilities of the teacher. I think the great value of the instruments that we have seen is in the training area rather than in the performance evaluation area. This is especially true, because I don't believe that the validity of these instruments or the reliability of these instruments have been assessed in follow-up studies yet. So, we don't know if they make a difference in practice.

Yet, there is a responsibility for exercise of expert judgment, and you must make your decisions. You must go with whatever your objectives are, whatever your philosophies are. Do the best you can, and I wouldn't quarrel with that at all.

Going to the question that Al asks, "Is performance evaluation a valid approach to certification?", I think that it is evident that it is not as yet in our time, possibly in our lifetime, a valid approach, because it hasn't yet been validated. I think that that question was answered by John earlier this afternoon. I wouldn't be too concerned about it, as Frank Jennings pointed out, and I don't think that it's a question of panic. The certification process for the teaching staff, I think, differs from the certification process for the legal profession or the medical profession in one essential feature. A teacher doesn't go out and practice as an individual in his own frame of reference. He doesn't establish his own class. He is employed, and, therefore, there is another agency involved. When you certify him, he is not thereby hired, and there is no school system that must hire him.

Finally, there is no probationary period which in itself is an adjunct of certification. There I think it might well be that permanent, provisional, or regular certification, whichever it is that is the final stamp of approval, ought to be given by the State after a school system has certified that the person had served satisfactorily through a probationary period.

Hite: I don't like to sound parochial, and I know I'm kind of forcing this. But I can't help but note here that what Dr Lang describes as the provisionary period is the program that our State entered into twelve years ago and has since dropped. We could save you a lot of trouble, because our past program is written up almost exactly as you described. What bothers me . . . no, I guess it doesn't bother me. Maybe it's a dang sight better than what we propose to do here, you know. A lot of people think so, but you don't have to invent the wheel. It's like we were just saying, there is a community of interest here, so there's an interchange about what's going on. There are other people with programs of State certification like the one Dr. Lang has just proposed. What has their experience been? Why, for instance, do some of them think, as we now do, that some other system might be better? Do you necessarily have to go through all that to find out? I don't think so. I just wonder if there is some way to share and profit from these experiences.

Lang: There is need for more sharing. Now, as to what can be done, I think here, too, we've reached some degree of consensus. What you're now doing, Al, what you're in the process of doing, eliminating specificity in general areas, I think is a step in the right direction. There might be further steps in that direction which are possible and which promote the flexibility that the teacher preparation institutions would receive. I like John's idea of encouraging, or of requiring school systems and colleges to define what they are doing in the elimination of unsatisfactory students in their programs, or unsatisfactory teachers, and thereby encouraging them to minimize the unfitness of teachers. I would emphasize, Al, since you have both offices under your supervision, the positive aspects of it, emphasizing the use of in-service training devices to promote the fitness of teachers, rather than the elimination of teachers. Although that, of course, would have to be a part of the program. Research, I think, is necessary in both areas. I pointed out before that the research in John's assessment center is something that I think we should all plug for, because I think we can't begin to talk about the use of performance evaluation for anything until we begin to define the tasks of teachers, differentiate their tasks in different settings, and develop and validate instruments for the measurement of teaching proficiency. I think that that's quite a way off, but we're never going to get there unless we start as soon as possible.

Jennings: Let's continue with Ted Andrews.

Andrews: As I was coming down here from the coffee break, I came to the sign in the corridor which points in both directions. You can go to the left, or you can go to the right. Just don't stand still, because three people walked into me. The State is currently in this sort of situation. I'm afraid, you know, that if we don't provide the right kind of leadership, the profession will move this way and take us with it. I think that it's encouraging that we are trying to provide leadership and be a step or two ahead.

We argued until 1:30 in the morning, and we continued the argument today about how to approve a teacher education program based on evaluation of performance. I raised the question with this panel at lunch, "What standards would we possibly use if we disapproved the program?" Because once you disapprove a program, you have made a judgment on some criteria, and you'd better be able to say what the criteria are. They suggested that we don't disapprove teacher education programs. We become instead the source of consultative help in the areas that the college, in our estimation, needs help, whether it be in the sense of sending somebody there three times a week for a year, if necessary; whatever the problem might be. I don't know, I can see some logistic problems. But I thought that this was again a different approach to what we do and maybe one that should be considered.

Jennings: Thank you.

Hemphill: I have very little to say. I did observe one thing, and that's maybe with respect to how long I hope to live. Certainly I'm not so pessimistic as Ted, here. I think that we're going to see some of these things that we hope for within my lifetime. They are big problems, but I disagree with my colleagues about the time scale, unless we have different measurement units. I think that we will see real progress toward specifying what we mean by good teacher behavior. Frank's observation there is very much to the point. We know in a sense, but we don't know in the detail what we'd like to know. I think we can move, and I think we will.

Jennings: Robi?

Robison: I would like to begin by just making a few comments on the various papers that were presented by the participants, who represent various aspects of the research and development frontiers, I presume, of our current educational scene. I think it's very interesting that each one has apparently attempted to get a hold of a bit or a piece of the teaching-learning process and to develop a focus on it, so that it becomes a meaningful unit of a process. I want to applaud this; however, I'm not sure that the whole pattern of teacher learning with its segmented parts does fit together like putting beads on a string in order to create a necklace. I'm not sure what the overall pattern of this process is that all of us engage ourselves in as part of our professional living. Nevertheless, I do applaud you for what you have been attempting in your work, and it seems to me like your contribution, as we approach this matter of performance evaluation, has had relevance for our thinking.

Now, coming to this matter of performance evaluation. I have the feeling or belief that each generation of American educators must have their day on the stage, and they must have their opportunity to make their big contribution to the American educational scene. Back in the late thirties and early forties when I first entered the teaching profession, I was tremendously excited over the deficiencies that I found existing on the American scene. I tried my hand, of course, at rewriting holy writ, and I found sympathetic audiences in some areas. I also found caustic, critical audiences in other people. Nevertheless, I did have the satisfaction for my own ego of having a go at it. It seems to me like the performance criteria for certification represent a young man's game. As I look around here I'm somewhat abashed at the number of clean, almost unwashed youngsters that surround us, and in some ways it's reassuring that there is a generation of youngsters who are about to undertake what I among many will applaud as being a worthwhile project. So they want to take our whole package and take it apart and have their inning at putting it back together. I hope that we can be philosophical about this.

I believe, Dr. Lierheimer, that this college is perhaps ready to have a go at some other approach to meeting the requirements of certification. I was thinking a few minutes ago of the 35 different programs on a campus that lead to some kind of certification or another. I'm not sure that there are that many different programs. There may be half a dozen teacher education programs that lead to 35 different types of certificates. Maybe the time has come for us to shape this whole thing up. Maybe you'll be sorry, but I think it's worth taking a chance on.

In a way, I'm glad that members of the education faculties were not in on this session, because it seems to me that there was a kind of cavalier disregard for the fact that the evaluation leading to certification under the current system has been completely subjective, and that no quality control actually exists. Of course, you know as well as I know that any member of an education department would get up on his stool and deny that, chapter and verse, and argue that, of course, he operates on a performance criteria. If you come over to his office, he'll pull out his files, and he'll give you the anecdotal records and the little charts that he keeps and the log of how many visitations he made to his practice teachers out in the field, at least the ones that he submitted for reimbursement. It is true that educators can be very persuasive, if you give them an opportunity to defend their performance. I think that there is going to be an initial period of shock and that heads may roll. We may find new uses for professional organizations and for paraprofessional organizations in a way that New York public schools have not seen them used in the past.

I think that the generalized implementation of this within a college is going to be the work of two groups. It will be the work chosen by the youngsters on the faculty, and it will be work that will be encouraged by certain senior faculty members. I'm afraid that there's going to be a middle group, and I don't want to refer to them as that dismal group of average teachers that someone referred to earlier this afternoon. But we may have within a college faculty, you see, a comparable average group who somehow, for some reason or another, simply aren't capable of bringing very much illumination to this kind of a problem. I think that generally they tend to be a very comfortable group. If they find a performance system of evaluation for certification intolerable, I don't know what you could do with them. Maybe you could donate them to the arts and sciences and be able to replace them with the youngsters who still do not know any better than to try to do the impossible. How long will it take? It would take most of your generation. Perhaps by the time you reach that point you will say, "Well, it may not be perfect. At least it's a going machine." I'm sure that you will be running school systems which are different from what we have. Time is fleeting, of course, and time does become shorter and shorter, but I think that from some of the comments that were made in this symposium, that we may not have to do all this within the next eighteen (18) months, should be kept in mind. Especially, when we start hitting the frustrating experiences of having this part of the plan collapse on us and having to go back and restructure and take another thrust.

Jennings: You imply the generation gap, which is a way for those of us who are now in advanced middle years to have salt rubbed into the thinning scalp. Thank you.

Lierheimer: I would say that we don't really have a choice of relying on the system that we have, because the system that we have really isn't any system. I would not want to use that as a backup while we do something else. I really think that at this point the chips are down. You have to move ahead on this thing or give it up entirely. I mean give up State certification as a device entirely.

a bibliography for evaluation in education

melissa winger

10

A Bibliography for Evaluation Education

The bibliography set forth below was compiled as an outgrowth of the National Symposium on Teacher Evaluation. It became apparent that some means of assessing recent research in teacher evaluation was necessary in order to establish a beginning point for those scholars wishing to react to the recommendations and findings of the Symposium. The bibliography covers the period of time from January 1960 to December 1967, the latest full year for which indexes are available. From a survey of bibliographies compiled on the subject of teacher evaluation which indicated the last comprehensive works to be *Teacher Effectiveness: An Annotated Bibliography,* by D. L. Castetter, et al., 1954 and *The Wisconsin Studies of the Measurement and Prediction of Teacher Effectiveness: A Summary of Investigations,* by A. S. Barr, 1961; 1960 was established as a reasonable beginning date. Apart from the items listed here as bibliographies, further listings will be found in many of the books, dissertations, and articles we have listed. Some listed bibliographies deal with only a limited aspect of the problem, such as teaching evaluation by means of video tape. Collection of doctoral dissertations for the bibliography made apparent the increased number of studies being submitted during the last seven years. Because the rate of increase of dissertations concerning teacher evaluation has exceeded the general increase in number of dissertations being written in education, it was concluded that increasing emphasis was being placed upon studying teacher evaluation.

As an outgrowth, the question arose, "Has there been a change in the nature of the instruments being designed for this purpose?" Not long ago, a study was completed by Medley for the purpose of identifying research in teacher evaluation completed previous to 1960 which utilized objective observational systems. His findings indicated that approximately 4% (40 out of 1,000 studies) of the instruments utilized for evaluation purposes during this period of time contained objective criteria, and if any scale other than principals' or supervisors' ratings were used, teachers were rated on only one criteria, commonly class management. Medley indicates that such ratings have been consistently unrelated to pupil learning.

A similar system of analysis was used to look at the most recently completed doctoral dissertations (January 1966 to December 1967) in expectation that they might reveal some growth in objectivity since 1960. Doctoral dissertations were exclusively chosen for examination because their titles are more descriptive of the content than articles or books, and because they are a more accurate representation of performance evaluation in education; i. e., the present state of teacher education research.

These 79 studies were scored as to whether they included the following qualities:

I. a system of direct, objective observation of teachers and teaching, without inference.
    A. superficiality — teacher appearance, tone of voice, organization, record-keeping, etc.
    B. involvement — teacher concern with teacher task and teaching methods, presence of teaching objectives, etc.
    C. self-evaluation — teacher self-assessment and establishment of future goals.

II. an objective means of evaluating pupil learning by classroom behavior or tests.
    A. superficiality — quantity of pupil response
    B. involvement —
    C. self-evaluation — pupil self-assessment and establishment of future goals

III. the presence of a multidimensional objective system.
    A. sensory criteria for evaluation (observable attributes)
    B. affective criteria for evaluation (attitudinal or emotional)
    C. cognitive criteria for evaluation (principles or rules)

Judgments from dissertation abstracts were made with the following understanding:

1) Assessments on the basis of principals' or supervisors' ratings of effectiveness or other forms of professional judgments were not acceptable.
2) The assumption was made that if evaluative instruments were important to the investigator they would be important to the field and would be mentioned in the abstract as critical to the design of the study. The purpose of this analysis was to determine to what extent they have become important to educational research.

The findings indicate that the number of dissertations employing any type of objective measurement has increased from Medley's 4% (40 of the 1,000 studies) to 25% (20 of the 79 dissertations). Eleven percent were using the Flanders System of Interaction Analysis. Out of 48 institutions of higher learning represented by the 79 dissertations analyzed, the studies utilizing objective instruments represented 15, four of which were from Columbia University and three, from the Ohio State University.

A distribution scale of these studies by institutions appears below:

Name of Institution	*Number of Studies Using Objective Instruments*
Arizona, University of	1
Ball State University	1
California, University of	1
Colorado State College	1
Columbia University	4
Cornell University	1
Indiana University	1
Lehigh University	1
Ohio State University, The	3
Oregon, University of	1
Pennsylvania State University, The	1
Purdue University	1
Stanford University	1
Texas, The University of	1
Washington, University of	1

Ten percent of the studies were concerned solely with direct, objective, teacher observation and evaluation with disregard for an objective means of evaluating pupil learning, while 13% were concerned both with objective observation of teachers and evaluation of pupil learning. Of those ten studies comprising the 13%, nine were using the Flanders System of Interaction Analysis and one, Medley's OSCaR.

A further description of the findings is presented below in graph form:

Judged Criteria	*Number of Studies*	*Percent of Total*
I. Objective teacher observation	19	24%
A. Superficiality	12	15%
B. Involvement	18	23%
C. Self-evaluation	13	17%
II. Objective Measurement of Pupil Learning	12	15%
A. Superficiality	11	14%
B. Involvement	11	14%
C. Self-evaluation	10	13%
III. Multidimensional Systems	16	20%
A. Sensory	14	18%
B. Affective	13	17%
C. Cognitive	15	19%

Those ten studies which contained multidimensional systems encompassing all three categories of Sensory, Affective, and Cognitive were:

Flanders System of Interaction Analysis

1) Burge, E. W. The relationship of certain personality attributes to the verbal behavior of selected student teachers in the secondary school classroom. North Texas State University.
2) LaShier, W. S. An analysis of certain aspects of the verbal behavior of student teachers of eighth grade studies participating in a BSCS Laboratory Block. The University of Texas.
3) Lohman, E. E. A study of the effect of preservice training in interaction analysis on the verbal behavior of student teachers. The Ohio State University.
4) McLeod, R. J. Changes in the verbal interaction patterns of secondary science student teachers who have had training in interaction analysis and the relationship of these changes to the verbal interaction of their cooperating teachers. Cornell University.
5) Morgan, J. C. A study of the observed behaviors of student teachers in secondary social studies as correlates with certain personality characteristics and creativity. Purdue University.
6) Nichols, D. L. The relative impact on student teacher behavior of two patterns of organization for student teaching. The Ohio State University.
7) Ober, R. L. Predicting student verbal behavior. The Ohio State University.
8) Ragsdale, E. M. Attitude changes of elementary student teachers and the changes in their classroom behavior during student teaching. Ball State University.
9) White, J. C. A study comparing the effectiveness of three teachers' inservice training programs using selected self-analysis techniques. University of Oregon.

Medley's OSCaR

10) Petrusich, Mary M. Some relationships between anxiety and the classroom behavior of student teachers. University of Washington.

The bibliographical sources, found to be distributed among 97 different magazines and periodicals, are arranged by form (Books, Articles, Dissertations and Bibliographies) and alphabetized by author within form.

A tabulation of the number of items published each year since 1960, by form, shows a total of 361 articles, 228 dissertations, 86 books, and 18 bibliographic studies. The most significant trend in the literature is a consistent increase in the number of doctoral dissertations devoted to some aspect of teacher evaluation, an increase which accelerates far more rapidly than the progression of total doctoral dissertations in education. Another apparent trend is found in the large number of articles in the 1961-1963 period, which is perhaps coincident with the many complaints being voiced then by both the public and professionals about the poor quality of our traditionally oriented evaluation practices, poor teacher training, and poor schools in general. The bulk of dissertations appearing since that time indicates that the graduate facilities of education, insofar as training new people is concerned, have heard the criticism and are making some effort to do something about it now. In 1967, a record number of books appeared, indicating that the subject is receiving widespread and careful attention. If any projections can be based on this evidence, it would appear that from the number of doctoral dissertations and books, we are going to hear even more about the subject in the future, and may expect some sweeping revisions in practices now generally regarded as inadequate.

Year	*Number of Dissertations*	*Articles*	*Books*	*Bibliographies*	*Total*
Pre 1960	-------	-------	-------	7	7
1960	6	33	12	5	56
1961	13	65	5	1	84
1962	17	61	9	2	89
1963	27	63	10	1	101
1964	34	31	11	1	77
1965	40	48	10	1	99
1966	31	35	13	0	79
1967	50	26	16	0	92
Total	218	362	86	18	684
					684

A small number of entries in the complete bibliography were not included in this publication due to incomplete bibliographical information.

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